STEAMBOAT DAYS

by

FRED ERVING DAYTON

Illustrated by

JOHN WOLCOTT ADAMS

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Clermont, the first commercial steamboat

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INTRODUCTION

STEAMBOATS, when they had been established to be reliable carriers, became America's grand passion and steamboat days marked the passing of isolation and the beginning of travel in America. To be quickly and cheaply transported was an obsession when the country was young, for it meant adventure with much of the old hardship left out. Problems of building and operation were solved quickly and speed was the spirit of America. Fulton's first steamboat made five miles an hour. Ten years later Stevens' steamers were hitting fifteen miles, and in 1846 Commodore Cornelius Vanderbilt raced *Traveller* against "Live Oak" George Law's *Oregon* to a dead heat, 20 miles in 57 minutes.

Shallow waters were deepened and made navigable at private expense. Steamboats grew in size and in such numbers that 800,000 tons were added in a single year. Journeys which had required weeks to make were accomplished by steamboats in as many days. Pioneer wildernesses blossomed cities and towns almost over night. Mechanics were created by thousands, and dreamers of yesterday were conservative steamboat executives the day following.

A struggle to monopolize steamboats was bitterly fought. Laws had not been written, or, if on the statute books, had not been tried and tested; the constitution had not been interpreted, and the monopoly grants threatened to disrupt the young country, for the States were at grips with each other over steamboats.

These legal contentions developed into commercial warfare, bitterness, hatred and unfair competitive battle unknown before and not tolerated since. Passengers were kidnaped by rival lines and steamboats fouled each other in premeditated collisions, while they omitted advertised stops in the race to beat competitors and proclaimed superior speed which they did not possess.

From the fights emerged Vanderbilt, Drew, Isaac Newton, Chapin, Borden, Memnemon Sanford, Whildin, Aspinwall and Charles Morgan among other early leaders who became great transportation executives and capitalists; and ruin consumed scores of others who tried and failed.

As if attempting to repair the damage occasioned by their monopolistic introduction, steamboats knitted and solidified the eastern

States into a strong and enduring republican government and on the western rivers and lakes steamboats carried thousands of pioneer home-seekers across and beyond the old boundaries, and "without steamboats the West might never have been the West."

When New England coast towns were burned by the British in the War of 1812, and their people settled anew on western land grants, the shipbuilders among them continued in the one trade they knew. Pittsburgh became a shipbuilding port with anchor forges, block factories, rope walks and shipbuilding yards, not alone for river boats which later came in such numbers, but sea-going ships. Pittsburgh and Marietta built full-rigged ships that sailed over the world.

For twenty-five years steamboats alone provided transportation and later when they divided the business with railroads, the steamboats' share was largest and of primary importance, for the railroads were, at first, but feeders and extensions of steamboat routes. Credit is commonly given to railroads for the expansion of America, but it was the pioneer steamboats out of Pittsburgh that opened the Ohio and Mississippi valleys, and steamboats on the coast, rivers, canals and lakes facilitated the great movement of passengers and freight.

The early thought devoted to transportation did not contemplate competition between steamboats and railroads. Commonly the two systems had the same ownership, and steamboat owners promoted connecting rail lines, replacing stage coaches, and often with steamboat capital.

The imagination of early steamboat builders was limitless. Their ability to put their plans into effect was marvelous considering every step taken was new. Modern ocean liners only measure up to early conceptions. Coast and inland steamboats of to-day are no larger or finer than *New World* of 1848 and present-day steamboats are not faster. Except in her power equipment *Great Eastern* anticipated present design by half a century.

Steamboat days were romantic and travel was adventure. Transportation was a highly competitive business and men struggled to win and maintain place. This hectic competition was a glorious game which helped to advance travel. New lands were conquered and great cities built where steamboats reached, and the nation halted in its pursuit of agriculture to enter upon the mechanics and engineering of steamboating.

When the high seas came to be crossed by steam vessels American steamships led in speed, numbers, comforts and cargo capacity. The

largest and most satisfying ocean liners were American built and owned. English travelers preferred them. This leadership was lost to America following the Civil War. The railroads gradually took an increasing share of business, and monopolized capital available for transportation expansion. The railroads recruited their forces, too, largely from the steamboat world.

America did not lose her leadership in the change from sail to steam. She began to build iron ships as soon as any country. The Civil War gave impetus to iron shipbuilding. The Government had brought the art to such place that iron vessels could be built in America, so far as everything except raw materials was concerned, as cheaply as Europe could build them.

Nor was it the differential bounty of forty-four cents a ton granted to early American ships that made them prosperous, for this bounty only matched the bounties of other shipping nations.

Congress refused to permit three-quarters of a million tons of American steam and sail ships, which had gone under foreign flags for protection during the Civil War, to return to American registry, and so kept in the service of competitive nations a vast amount of American owned tonnage and capital.

While competitive nations were aiding their ocean shipping by direct methods of subventions and mail contracts and by indirect methods of relief, the United States Government refused assistance, and imposed new burdens upon shipping beyond those of other industries, which increased the cost of operating American ships.

America lost its leadership in steam. The Navy and the river, lake and coast steamboats kept shipbuilding alive and America showed ability to come back in the World War. The American flag will continue to fly from a representative merchant fleet upon the seven seas because a united country has determined to keep it there.

STEAMBOAT DAYS

CHAPTER I

Two Thousand Years of Steam

STEAM was early recognized as an agent of mechanical power, and among the relics of ancient Egyptian civilization records are found of the steam-engine. Hero, in his manuscript, "Spiritalia seu Pneumatica," describes a number of contrivances which either had then long been known, B.C. 280, or had been currently invented, and in the 37th proposition Hero sketches and describes a hot-air engine, designed to open and close the heavy doors of the temple.

Through the years infrequent references by historians show that knowledge of steam-power was not wholly lost, but it is remarkable that so little advance was made. A church existed in Rheims, A.D. 1125, equipped with an organ blown by air escaping from a vessel in which it was compressed "by heated water."

References in sixteenth century history show existence of some knowledge of the properties of steam, and anticipate advantages which would follow its application. The royal Spanish archives at Simancas record an attempt, 1543, by Blasco de Garay, a Spanish naval officer under Charles V., to move a ship by paddle-wheels, driven, as was inferred, by a steam-engine. De Garay was the first, perhaps, to anticipate steam as being useful power for navigation purposes. No description of De Garay's steam-engine is available, there being only the statement that a "vessel of boiling water" formed a part of the apparatus.

The seventeenth century records activities in steam in Italy, France and England. A patent granted to David Ramseye by Charles I, January 21, 1630, covered a number of distinct inventions, including one "to make shippes and barges goe against strong wind and tide."

The first instance in which the expansive force of steam is said actually to have been applied to do important and useful work is

contained in a collection of descriptions of inventions by Edward Somerset, second Marquis of Worcester, published in 1663, and curiously titled, "A Century of the Names and Scantlings of Inventions by me already Practised." One of these inventions is an apparatus for raising water by steam, and was actually used for this purpose at Vauxhall, near London.

Thus, the second Marquis of Worcester stands in the record as the first steam-engine builder, and his death marks the division separating the early romantic and the application periods in steam-engine development.

From this time forward come a host of experimenters in the practical application of steam-power, the foremost being Captain Thomas Savery, who invented a steam-engine, or at least is to be credited for the formally successful introduction of the "semi-omnipotent," "water commanding" engine of Worcester. Savery, in 1698, patented the design of the first engine employed in keeping the deep coal pits of Cornwall free from water.

Denys Papin, native of Blois, France, distinguished in medicine and science, devoted himself to the steam-engine and in an effort to produce a more perfect vacuum, adopted the expedient of employing steam to displace air, and to produce, by its condensation, the perfect vacuum which he sought. He produced the first steam-engine with a piston, and the first piston engine in which condensation was produced to secure a vacuum. Papin stated that this new machine would be found useful in ship propulsion, employing paddle-wheels driven by several engines to secure continuous motion. Papin is credited with the invention of the safety-valve in 1690.

The beginning of the eighteenth century found every element of the modern type of steam-engine to have been separately invented and practically applied. The character of atmospheric pressure, and the pressure of gases was understood. The nature of a vacuum was known and the method of obtaining a vacuum by displacement of the air by steam, and by the condensation of the vapor, was appreciated. Moreland, Papin and Savery had successfully attempted the application of condensation in the removal of atmospheric pressure.

The way had been smoothed for the coming of an engineer to effect a combination of the elements of the modern steam-engine; and Thomas Newcomen, an iron-monger and blacksmith of Dartmouth, England, produced a machine which was unmistakably a true engine, i.e., a train of mechanism consisting of several elementary pieces united in a train, capable of transmitting force applied at one end and of communicating it to the resistance to be overcome at the

other end. Newcomen's "Atmospheric Steam Engine" is the first of a new type.

John Smeaton, the most distinguished engineer of his time, engaged in a careful study of parts proportions, which had previously been arrived at in haphazard way, and from experiments Smeaton determined scientific proportions. In 1769 he built several engines of the Newcomen type; and he was the father of the long-stroke engine and introduced increased piston speed. Smeaton's engines were used in coal mines, water works, and in 1773 he prepared plans for a pumping engine to empty the great dry dock built by Peter the Great at Cronstadt, begun in 1719. The dry dock accommodated ten ships and had been imperfectly drained by two windmills, 100 feet high, requiring a year's time to empty the dock.

Smeaton's part in the development of the steam-engine was important. One historian has said: "The real and practical introduction of the steam-engine is as fairly attributable to Smeaton as to any one of the inventors whose names are more generally known in connection with it."

James Watt is revered as the father of the steam-engine. Watt's fame came from improving the proportions and altering the detail design of the previous Newcomen and Calley engines. Watt was equipped with fine intelligence and had remarkable skill. His start came as a repairer of apparatus in the University of Glasgow, where he interested members of the faculty in his mechanical studies, later receiving support which permitted him to devote much of his time to steam engineering.

Watt's first progress was in insulating steam carrier pipes against loss of heat, and in protecting boiler shells from rapid heat conductivity. This economy of heat was the base discovery which did so much to establish Watt's preëminent position as a steam engineer. In the state in which Watt found the steam-engine the quantity of fuel necessary to make it work prevented its extensive utility.

Dr. Roebuck became Watt's patron in 1767, assuming his liabilities of $5,000, and he agreed to provide capital for the prosecution of further experiments, while Watt turned over two-thirds of his patent rights. When more funds were required than Dr. Roebuck's resources, Dr. Black came to aid Watt's situation; but failure marked the third engine produced under this arrangement.

"Of all things in life, there is nothing more foolish than inventing," Watt wrote in a letter to Dr. Black, and he felt strongly the risks which he ran of involving his friends in serious losses.

Watt's misfortunes piled higher when death came to his wife, and

Dr. Roebuck lost his fortune and had to withdraw his support. Watt met Matthew Boulton, a wealthy manufacturer of Soho, a suburb of Birmingham, and negotiations began in 1769 which resulted in the transfer of the capitalized interest in Watt's engine, and making Boulton's name almost equally well known with that of Watt. Boulton succeeded to one-half of Dr. Roebuck's interest.

Boulton brought a fine mechanical appreciation to the development of Watt's engine, and business sagacity. He was ever on the lookout for improvements by others, with a view to their introduction. Watt paid Boulton a fine compliment when he urged Dr. Roebuck to accept Boulton's proposal, saying, "If Boulton takes his chances of success and pays you any adequate share of the money laid out, it lessens your risk, and, in a greater proportion than I think, it will lessen your profits." Watt, a deep thinker, also advised his friend to "consider my uncertain health, my irresolute and inactive disposition, my inability to bargain and struggle for my own with mankind, all of which disqualify me for any great undertaking."

Benjamin Franklin had contacts with Boulton before he met Watt. Franklin was a student of steam engineering and designed a model engine which Boulton had built, while Dr. Darwin had come into the scheme. It may have been the promise of success which inspired the prophetic rimes so often quoted from the works of this eccentric physician and poet. Franklin's major contribution seems to have been the design of a grate to prevent the production of smoke. It was Franklin's idea to make the smoke of fresh coals pass through those already ignited. Watt succeeded with Boulton as partner. Nothing important resulted from the combined investigations of Boulton, Franklin and Darwin.

Illustrative of Watt's personal situation and inability to get under way is the lapse of seven years from the time Watt completed arrangements with Boulton until he became active at the Soho works, and took up his residence there in 1774. He began the improvement of engines started three years before in Scotland and which had lain out in the open, exposed to the weather. In the same year a successful trial was held of the engine, first built at Kinneil.

Watt's difficulty now was in finding workmen who could carry his plans forward, for the number of skilled mechanics was few, and accuracy of fit, so necessary in steam-engine designing, was difficult, if not impossible, to obtain. Watt's enthusiasm was very real for a cylinder which had been bored only three-eighths of an inch out of round.

While other workers in the same field produced a number of fea-

tures which later became valuable, almost every successful and important invention which marked the history of steam-power for many years originated with James Watt. With the help of Boulton's influential friends, Watt succeeded in getting further patent protection, for twenty-four years, and the firm began the commercial manufacture of engines.

Boulton took charge of the general business and Watt superintended the design, construction and erection of their engines. It was only after the successful operation of several engines that Boulton and Watt became legal partners. With improved fortunes, relieving him from cares, Watt married again and the ten years following were the most prolific in inventions of any period in Watt's life. The simple eccentric bell crank for creating rotary motion from reciprocal movement was covered in a patent granted to another, and its use denied to Watt, who was forced to the extremity of designing the "sun and planet" wheels. Watt was also required to pay royalties for use of the fly-wheel.

The most important of Watt's later inventions covered the expansion of steam and six methods of applying the principle and of equalizing the expansive power. He invented, too, the double-acting steam-engine, in which the steam acts on each side of the piston alternately, the opposite side being in communication with the condenser. Watt invented the double or coupled engine, two steam-engines capable of working together, or independently; while another device was a rack on the piston-rod, working into a sector on the end of the beam, securing a perfect rectilinear motion to the rod. Like so many inventors who came after, Watt designed a rotary engine, or "steam wheel" anticipating the turbine type.

To control the speed of engines Watt invented the centrifugal ball governor, which is in use to-day practically in the same form that Watt originally designed it. With engines more or less established, Watt turned his attention to other fields. He built the first steam-hammer, and he invented, too, the water-glass in common use in all steam-boilers since.

The introduction of steam-power for the propulsion of ships had been anticipated, and several notable attempts had been made, before the beginning of the nineteenth century. The steamboat waited upon the development of the steam-engine and boiler. Substitution of paddle-wheels for oars had been attempted as early as 1588, as shown in old wood-cut illustrations, while the Marquis of Worcester in 1651 referred to steam application as a driving force for the paddles of a boat.

Papin built a boat, with steam-power, for which he asked patent protection in 1707, the first steamboat to be built. So superstitious were the people of that day, that they destroyed the boat and Papin barely escaped with his life; but to him must be accorded the honor of having constructed the first steamboat.

Jonathan Hulls took out English patents for the use of a steam-engine for ship propulsion in 1736, and for towing vessels. A year later he issued a pamphlet descriptive of his device, with illustrations of his ideas.

The French Academy of Sciences in 1753 awarded a prize to Daniel Bernouilli for the best essay on the manner of impelling vessels without wind. Abbé Gauthier published a more practical suggestion in "Mémoires de la Société Royale des Sciences et Lettres de Nancy" including the use of a Newcomen engine to drive paddle-wheels placed at the sides of the vessel.

A Swiss clergyman, J. A. Genevois, in 1760 published in London a paper outlining his plan for compressing springs by steam or other power, and applying their effort while recovering their form, to ship propulsion.

At this time the steamboat began to be studied in America, and the first attempts made to solve the problem—then appreciated to be the most important to present itself to the mechanic and engineer.

The honor of initiating steamboat interest in America seems to belong to William Henry of Lancaster, Pennsylvania, inventor of the screw auger. Henry was born in Chester County in 1729 of Irish parents. In 1760 he went to England on business, and while there was attracted to the steam-engine invented by Watt. He saw in it possibilities for ship propulsion. Upon his return to America he began work upon a steam-engine of his own design, which he completed in 1763. He installed this engine in a boat, fitted with paddle-wheels, making his first trial on the Conestoga River, near Lancaster. The boat sank immediately and was lost; but Henry was not discouraged by this failure. He followed with a second model, adding improvements. The records of the Pennsylvania Philosophical Society show a design by Henry in 1782 of one of his steamboats.

Henry met with antagonism to his steamboat, as being impractical against wind and tide, but he wrote: "The time WILL come when steamboats will be used to navigate the waters of the Ohio and Mississippi Rivers."

While Henry's success in the field was small, he must be credited with much of the development which was so soon to follow, for he inspired both John Fitch and Robert Fulton, who were his protégés.

Henry was a magnificent patron, for Benjamin West, colonial portrait painter, was also his protégé. Fulton's interest in steamboats was aroused when he visited his aunt, living on the banks of the Conestoga River, near the home of Henry. The conclusion is logical that Henry, becoming interested in the steamboat during his visit to England in 1760, would communicate his enthusiasm to Fitch and Fulton, attracted to his home as an early art center.

When, after Watt's invention, the steam-engine had been developed where it could really drive the propelling mechanism of a boat, real impetus was given to its adaptation. Marquis de Jouffroy, in France, was one of the first to perceive that Watt's compact engine was applicable to the propulsion of vessels, while Perier Frères imported a Watt engine from the English works at Soho which Jouffroy studied in an effort to install it in a boat. In 1770 d'Auxiron resigned an army post to prosecute his steamboat plans, and a monopoly for fifteen years was granted for river navigation if his plans should prove practical; but the little vessel foundered at its wharf the first night.

Perier built a boat which had a trial on the Seine in 1774, but the craft was under-powered and could hardly stem the sluggish tide. Jouffroy made another attempt at Lyons in 1783, but the Government denied him a monopoly and he reëntered the army.

CHAPTER II

Early Development of the Steamboat in America

JAMES RUMSEY began his experiments in steam navigation in 1774, and in 1786 he succeeded in driving a boat at the rate of four miles an hour, at Shepherdstown, West Virginia, on the Potomac River. His method was a power-driven pump forcing a stream of water aft, and so propelling the vessel forward. It had been proposed by Bernouilli before and has been reinvented many times since.

Hydraulic, or "jet propulsion" proposed by Rumsey has never been seriously accepted, but Rumsey received a patent grant from the State of Virginia and addressed a London society "On the Application of Steam." He died in 1793 at the age of 50 years. In 1839 the State of Kentucky voted his son a medal commemorative of the father's services "in giving the world the benefit of the steamboat."

John Fitch, an unfortunate and eccentric inventor, born at Windsor, Connecticut, after years of roaming settled down on the banks of the Delaware River, where in 1785 he conceived a steamboat. Fitch does not seem to have known of any previous progress in the art, and was genuinely surprised when first informed that others had pioneered in the field. Fitch's first model was tried in a stream at Davisville, and in 1785 aid was asked of the General Government in his behalf. This was denied; and Fitch next applied to the Spanish minister, but nothing came of the negotiations.

The following year a grant was made to Fitch by the State of New Jersey, giving him the right to navigation of the waters of the State for fourteen years, and later Pennsylvania made a similar grant. A company, organized to develop Fitch's steamboat, raised capital to build a ship, which was completed in 1787, when a trial revealed many defects. When these had been corrected the boat was found capable of moving at three or four miles an hour, the boiler being of insufficient capacity to maintain a higher speed.

Virginia granted Fitch a patent right and again he sought protection from the General Government. This application led to controversy with Rumsey, Fitch contending that Rumsey's design was similar to the plan of Bernouilli, Franklin, Henry, Paine and others, and he declared that Rumsey's steamboat had not been built until 1786.

Rumsey charged that Fitch's pipe boiler was copied from his design. Fitch brought evidence forward to prove that Rumsey had not built such a boiler previous to his own production.

The first boat designed by Fitch was 45 feet in length, with paddles working on the sides. His second ship, built in 1788, was 60 feet long and had similar paddles placed at the stern. Another of Fitch's boats, built in 1790, made seven miles an hour and was placed in service between Burlington, Bristol, Bordentown and Trenton, sometimes leaving the route to accommodate excursions out of Wilmington, Gray's Ferry and Chester. Wescott, in his "Life of John Fitch," reports that this steamboat made between 2,000 and 3,000 miles without serious accident in its first season.

The first printed announcement for steamboat travel appeared in the *Federal Gazette* and Philadelphia *Daily Advertiser,* July 26, 1790:

The STEAM BOAT

sets out tomorrow morning at ten o'clock from Arch Street Ferry, in order to take passengers for Burlington, Bristol, Bordentown and Trenton, and return next day.

Fitch's next steamboat, named *Perseverance,* was begun in 1790, and while it was never completed, it was important in his successful application for patent from the United States Government. Disappointed in his quest for capital, Fitch went to France in 1793, and met disappointment there also. In 1796 he returned to America and experimented with a screw-propeller steamboat on Collect Pond, which then occupied that part of New York City where the Tombs Prison stands. In his latter years Fitch settled in Kentucky, on a land grant made to him, continuing his experiments with a model steamboat until he died in 1798.

Currently with Fitch, a number of other American mechanics were at work upon the problem.

Samuel Morey, Nathan Read, Oliver Evans, Elijah Ormsbee and Nicholas Roosevelt were pioneers. Morey began his experiments in 1790, or perhaps earlier, designing and building a small steamboat, which had a trial on the Connecticut River that year. In 1793 Morey built a paddle-wheel steamboat, making a trip from Hartford to New York in 1794. His boat was a stern-wheeler, of five miles'

speed. Next he built a side-wheel steamboat at Bordentown, New Jersey, in which he made a trip to Philadelphia in 1797. Morey exhausted his funds and had to abandon his projects, although Livingston, Fulton and Stevens rode in his boat, and Livingston is reported as having offered assistance in the event he could show eight miles' speed.

Morey's important contributions to the development of the steamboat are established, but little is known of the detail of his designs. Unlike others, he sought neither publicity for his plans nor fame for himself, but much credit for the design of stern and side-wheel paddle arrangements is due Morey.

Nathan Read's attention centered upon improvement of boilers to make them strong, light, compact and safe. A boiler patent was granted to him in 1791. Coincidentally patents were granted to Fitch, Rumsey and John Stevens for various methods of applying steam to ship propulsion. Read's fame rests upon his vertical multitubular fire-box boiler, now a standard form in general use.

Elijah Ormsbee, a Connecticut Yankee, residing in Rhode Island and financed by David Wilkinson, built a small steamboat in 1792 at Winsor's Cove, Narragansett Bay, employing an "atmospheric engine" and "duck's-foot" paddles, realizing a speed of three miles an hour.

In 1804 Robert L. Stevens crossesd from New York to Hoboken in a small steamboat equipped with the first tubular boiler, and driven by an engine which worked two four-bladed wheels, five feet in diameter. This first engine used for a steam propeller was accurately and skilfully made and when it was put in a new hull, forty years afterward, worked successfully without alteration, at eight miles an hour.

EARLY STEAMBOAT PROGRESS IN ENGLAND

During the same years interest in the steamboat continued in Great Britain. Patrick Miller in 1786 began to experiment with a twin-hulled boat, driven by paddles located between the hulls. James Taylor and William Symmington joined Miller in 1788, building a boat twenty-five feet in length, which realized five miles' speed. A year later a larger boat was completed. The paddle-wheel construction proved too light and broke down in the first trials, but was replaced and the new boat made seven miles an hour.

With success in sight, Miller lost his enthusiasm and dropped the project for other plans. A quarter of a century later the British Government recognized his part in advancing the art, granting a

yearly pension. No reward came to Taylor, whose cash contributions were $150,000. Taylor charged the failure to the improper engine designed by Symmington.

Symmington next joined with Lord Dundas as patron, and later Henry Bell, and they did much to establish a firm foundation for steamboats, as progress was important and uninterrupted from their time forward. Lord Dundas held large interest in the Forth and Clyde canals and he advanced $35,000 capital after Taylor quit the field to further the plans of Symmington.

The first steamboat built under this patronage was started in 1801 and was ready the year following. It was named *Charlotte Dundas* for Lord Dundas' daughter, and by many is claimed to be "the first practical steamboat." It was powered with a Watt engine, driving a paddle-wheel through crank connection. Its first trip of twenty miles, against a strong head wind, was made in six hours, towing two barges each of seventy tons.

Fear of damage to the canal banks kept the canal owners from adopting steam towboats, but the Duke of Bridgewater gave Symmington an order for eight boats to operate on his canal. The Duke died before the commission could be made formal and Symmington gave up the project in despair. Twenty-five years later the British Government granted him a pension of $500 and later $250 additional.

Inspired by the performance of *Charlotte Dundas,* Henry Bell built in 1812 the first passenger steamboat in Europe: *Comet,* 40 feet in length, 10½ feet beam, driven by two paddle-wheels on each side. Bell appealed to the British Admiralty for help in developing his steamboat plans in 1786, in 1800, and again in 1803, and when denied he urged his views upon the United States Government. Bell's most important part in steamboat development was in establishing the reliability of steamboat travel, and with his success steam navigation in Great Britain was fairly inaugurated.

ROBERT FULTON

Robert Fulton has been generally credited with the invention of the steamboat, and passing years have fixed his preëminent position as its inventor. Yet, the steamboat waited upon the development of the steam-engine, largely accomplished by Watt. Without the prime mover itself, there could have been no steamboat. When Watt and others had so far advanced the steam-engine as to make it a reliable source of power, its introduction in many fields of practical work was logical.

Nor was Fulton the first to suggest the introduction of steam-power to ship propulsion. Such suggestions had come down through the early centuries and Denis Papin had actually built a steamboat a century before Fulton. Fitch, too, had earlier designed and built a steamboat in America, as well as Morey and Rumsey, Ormsbee and Stevens.

Upon what solid ground does the fame of Fulton rest?

Looking back upon those confused times when steam was beginning to be understood, we find long periods elapsing when little progress seemed to be made, and a record of pertinent facts, now available, was then unknown to the pioneers. Fulton, perhaps, was better equipped with knowledge of the art and progress than any of the others. Fulton was fortunate, too, in the time when he built his *Clermont,* the creation upon which his fame rests. The world was beginning to realize its need for steamboats. Fulton's craft is outstanding among the early attempts, as a reliable ship, making 130 miles on its first trip, and repeating the performance regularly.

Previous experimentation, based upon vision, was largely imaginative, and the clearest thinking was aborted by inability to express in manufacture, for the steamboat waited upon skilled mechanics. Fulton was aided in his plans by machining knowledge which was not available to those who had gone before. Fulton's place in history is secure because he was equipped with knowledge of the art, because he lived at a fortunate time when the world was beginning to understand its need of transportation, and because there was available to Fulton a growing number of mechanics to interpret his plans.

In giving credit to Fulton we do not deny recognition to Papin, who first put his steamboat vision into practice, or to John Fitch, or Rumsey, Morey, or to Miller, Taylor and Symmington in England; nor can we fail to credit Colonel John Stevens of Hoboken, who built steamboats before Fulton, and who was, perhaps, the best trained engineer to give his life to steam. Colonel Stevens' gifts to steamboating were of more practical importance than the earlier inventions of all others, and of those of his own time.

Fulton cannot be dismissed as being one of a number of experimenters in this field, for his accomplishment is outstanding and the shake-down of years has made his place in history secure.

Fulton was born in Little Britain, Pennsylvania, November 14, 1765. In 1783 he was engaged in painting portraits, and in 1786 sailed for England to study under Benjamin West. He turned to engineering in 1794 and was engaged by the Duke of Bridgewater in canal projects, including a system of inclined planes in the place of

canal locks. In 1796 Fulton went to France, at the invitation of Joel Barlow, an American merchant living in Paris.

For seven years Fulton devoted his attention to submarine designs, and other destructive devices of war, his experiments being made first for the French Government, and later for Great Britain. In 1803 Fulton turned to the steamboat, building an experimental craft in association with Barlow and Chancellor Livingston. The boat was 86 feet length, 8 feet beam, but the hull was too light to bear the weight of the machinery, and before completion the boat literally broke in two and sank at its moorings.

The wreck was recovered from the Seine and rebuilt, and in August, 1803, a trial trip was made in the presence of invited guests, and the experiment was sufficiently encouraging to induce Fulton and Livingston to order an engine from Boulton & Watt, directing it to be sent to America, where Livingston returned, and in 1806 Fulton followed, arriving in December.

Work was begun that fall upon a hull by Charles Brownne, an East River shipbuilder, in New York, and in August, 1807, *Clermont* was launched, being 130 feet length, 16 feet beam, and 7 feet depth of hull. The engine had a cylinder 24 inches in diameter and 4 feet length of stroke, with paddle-wheels 15 feet in diameter. The boiler was of low-pressure type, 20 feet long, 7 feet deep and 8 feet broad, whose great weight and masonry setting affected the flotation of the vessel.

The first trip of *Clermont* to Albany was made in thirty-two hours and the return trip down the Hudson in thirty hours. The sails with which the boat was equipped were not used. This was the first voyage of considerable length to be made by a steamboat, if we except Morey's claim, and immediately afterward *Clermont* began regular trips.

The hull design of *Clermont* followed sailing-ship practice and the rudder was found to be too small to permit the ship to be handled quickly. It became the prey of other river craft, whose practice it was to collide with it as often as possible and to do as much damage as the law would wink at. This led to the rebuilding of *Clermont,* when it was lengthened to 150 feet and the interior rearranged. *Clermont* went into service the next year as *North River.*

Subsequently Fulton designed larger boats to ply the waters of New York State and Connecticut. *Demologos* or *Fulton the First,* built in 1814-15, was 2,475 tons, the first steam naval ship, being built for the United States Navy and carrying, for the times, a formidable battery.

Fulton and Livingston early recognized the importance of Hudson River and Long Island Sound opportunities. They saw, too, the very great opportunities that were open in navigation of the western rivers and lakes. In 1810 Nicholas J. Roosevelt, with Fulton and Livingston, organized a shipyard at Pittsburgh, and built an experimental boat, the first steamboat ever floated upon the western rivers. It was equipped with a stern wheel and carried two masts, as Fulton believed that sail-power could not be dispensed with.

This boat was named *New Orleans* and was 116 feet length, 20 feet beam, and the engine had a cylinder 34 inches diameter. The cost was $38,000. *New Orleans* started upon its first voyage in September, 1811. She had an exciting trip, but reached her destination safely, and afterward operated regularly between New Orleans and Natchez.

That Fulton realized the importance of the great river waterways and the part they were to play in the upbuilding of the Middle West is equally creditable with his part in the invention of the steamboat itself. In 1816, when a splendid service had been inaugurated, the fleet of passenger and freight steamboats on the Mississippi River and its tributaries totaled 326,443 tons, supplying economical and fast transportation, and a service which was very largely responsible for the opening of great new territories.

Robert Fulton died in February, 1815, the result of exposure, and his death was mourned as a national calamity.

THE STEVENS FAMILY

Important as was Fulton's part in advancing steam navigation, the contributions of Colonel John Stevens of Hoboken, and those of his family, to steamboat and railroad development, have made the Stevens' name outstanding in steam engineering. In 1789 Colonel John Stevens petitioned the New York State legislature for an act similar to that granted Livingston, and then stated that his plans were complete and on paper. In 1804, while Fulton was in Europe, Stevens built a steamboat, 86 feet length, 14 feet beam, combining new features and merits of design which evidenced remarkable talent as well as sound knowledge of the problems to be solved.

Stevens' boiler carried a working pressure of over fifty pounds to the square inch, when usual pressures were from four to seven pounds. It was a "sectional" type boiler, and exceedingly well planned. The engine was direct-acting, high-pressure, condensing type, 10 inches diameter of cylinder and 24 inches piston stroke. It

drove a four-bladed screw propeller, and considering that pitch and slip of wheels had not then been measured in exact terms, its form was excellent.

The first Stevens steamboat performed so well that a second was immediately laid down, using the same engine, but employing a boiler of larger capacity, while the drive was through gearing to twin screws, the twin-screw propulsion being another of those instances of Stevens' use of a device brought forward long afterward as new.

These first two Stevens boats were so successful that Colonel John and his sons built *Phœnix,* which had its first trial in 1807, but too late to anticipate Fulton. This steamboat was driven by paddle-wheels, and was shut out of New York State waters by the monopoly granted Fulton and Livingston. It was placed on the run between Hoboken and New Brunswick, and afterward on the Delaware River.

The system of New Jersey canals had not then been built, and Robert L. Stevens, with Captain Bunker, started in June, 1808, to make the passage by sea. They encountered a strong gale, but arrived safely in Philadelphia, the first to venture in a steamboat upon the open ocean.

From this time forward the Stevens—father, sons and nephews—continued to construct steamboats, and when the New York State monopoly granted to Fulton had been swept aside the Stevens built the most successful steamboats operating on the Hudson River. In the twenty years succeeding the time of Fulton and Colonel John Stevens, changes and improvements followed until a recognized type of American river boat and its steam-engine were developed, principally by Robert L. Stevens, son of Colonel John Stevens.

Robert L. Stevens not only succeeded to the development of boilers and engines, but, as a naval architect, he arrived at a knowledge of the laws governing the variation of resistance at excessive speeds, and he determined and introduced into his practice those forms of least resistance and those graceful water lines which later came to distinguish naval architecture. He introduced the "hollow water line" in *Phœnix* and here anticipated the famous Baltimore clippers, and the invention of the "wave line" form of vessels. He adopted the feathering paddle-wheel and the outboard, or sponson guards, now universally used in river steamboats.

He designed *Philadelphia* in 1813 and introduced a number of new devices; and he was one of the first to use anthracite coal, then a new and almost unmanageable fuel. He fitted the boiler of *Passaic* to burn coal in 1818, and following that year its use became general.

It was Robert L. Stevens, too, who designed the "skeleton beam," a characteristic feature of American river boat engines, and he placed the first example of this light, strong construction on the steamboat *Hoboken,* built in 1822. He built *Trenton,* extraordinarily powerful and fast for the times, and when it had been out two seasons, placed the two boilers on the outboard guards, a fashion that continued for many years.

Trenton made steamboat history when Stevens adopted the plan of making paddle-wheel floats in two parts, placing one above the other, and securing the upper half to the forward and the lower half to the after side of the arm, obtaining a smoother action of wheel, without loss by oblique pressure.

In 1827 Stevens designed *North America,* built that year—hull by William Capes, New York, 218 feet length, 30 feet beam and 8 feet draught, with two beam engines of 44 inches cylinder diameter and 8 feet stroke. This was one of Stevens' largest and most successful boats, and ran between New York and Albany, making 16 miles' speed.

Anticipating difficulty in keeping the long, light, shallow hull in shape when irregularly laden, and when steaming at the high speed expected to be obtained when pushed to the limit, Stevens adopted the expedient of stiffening the hull by means of a simple form truss. This proved satisfactory and the "hog frame," as it has since been inelegantly but universally called, came to be, and continued a feature of American river steamboats of larger size for half a century.

It was in *North America,* too, that Stevens introduced artificial blast for forcing fires, and next he adopted spring bearings under the paddle shaft of *New Philadelphia,* built in 1828; and he fitted the steam-cylinder with the "double poppet valve," since universally used on steam-engines. In 1840 he first used metallic packing rings on *Trenton,* and in 1841, in association with a nephew, Francis B. Stevens, he invented the familiar "Stevens cut-off," a device for securing the expansion of steam in the steam-cylinder. In this form of valve gear, the steam- and exhaust-valves are independently worked by separate eccentrics, the latter being set in the usual manner, opening and closing the exhaust passages just before the crank passes its center. The steam-eccentric is so placed that the steam-valve is opened as usual, but closed when about one-half the stroke has been made. The result is accomplished by giving the eccentric a greater throw than is required by the motion of the valve and permitting it to move through a portion of its path without moving the valve.

The inventions of the Stevens family and the devices they adopted

made standard practice in steamboat building. Transportation in America was advanced, and the development of the country quickened because of their genius. The Stevens forces were marshaled for constructive work. They were pioneers and builders, and for them America has great respect and pride in the number and importance of their achievements. Their memory will continue to be honored through the Stevens Institute of Technology, Hoboken, set down in their old estate, which they founded; and, while it stands, Stevens Castle high above the busy Hudson River will remind us of their purposeful lives devoted to the development of water and rail transportation in America.

CHAPTER III

The Beginning of Steamboat Commerce

WHEN *Clermont* had been lengthened and re-christened *North River* it went into service with Captain Samuel Jenkins as master and David Mandeville pilot. The side-wheels were housed in a great circular casing, which characterized the profile of side-wheelers for many years. The jealousies excited by the coming of a steamboat took the form of injury to *Clermont* and the paddle-arms were the objects of attack. With those experiences in mind, the covering of the paddle-arms with "paddle boxes" was begun.

Fares were high, even for the times, and there was no fare less than $1 for any fraction of twenty miles. From New York to Verplanck's Landing was $2; to West Point $2.50; Newburgh, $3; Wappinger's Creek, $3.25; Poughkeepsie, $3.50; Hudson, $5, and Albany, $7. With *North River* established on the Hudson, and the monopoly of steamboat operation protected with the regular running of this boat, Fulton turned to the North and East River ferry-boat needs. *Jersey* was put on the service to Jersey City in 1812 and *York* on the East River in 1813. These new steam ferries took the places of boats propelled by driving two or four horses round and round a shaft in the hold of the boat, the shaft rotating paddle-wheels through gearing.

Fulton's ferry-boat design was a great improvement, being a twin-hulled structure united with a bridge floor, and it is recorded that one trip was made when eight four-wheeled carriages, twenty-nine horses and one hundred passengers were aboard. Fulton, too, designed the floating bridge dock, to accommodate differing levels of tide, as presently used.

Fulton next built *Raritan* and then *Car of Neptune,* which began running on the Hudson in 1809, a steamboat 175 feet length and 295 tons. In 1811 *Paragon* of the same size was added and the two steamboats alternated in Albany service. Much of the space was devoted to engine and boiler, and the passenger accommodation was limited. Freight was seldom carried. *Fire Fly,* of 100 feet length, came out in 1812; and *Hope,* with an engine by Robert McQueen, of New York, went into service the same year.

Lady Richmond, 100 feet length, was built in 1813; and *Olive Branch,* 112 feet length, was launched in 1815. Both of these boats, as the earlier Fulton boats, were built by Charles Brownne in New York; and Fulton's own engine works at Soho, New Jersey, built the power plants. *Chancellor Livingston* was laid down at the yard of Henry Eckford in New York, but Fulton died before it was launched.

Chancellor Livingston was named for Fulton's partner, and was 175 feet over all, 33.6 feet beam. James P. Allaire, who had succeeded to Fulton's engine-building plant, built the engine and boiler, rated 75 horse power, and having 45 inches cylinder diameter, with 7 feet stroke. The boiler was 28 feet in length and 12 feet diameter, with two funnels. The paddle-wheels were 17 feet in diameter.

The main cabin of *Chancellor Livingston* was 54 feet long, containing 38 berths, while above was a ladies' cabin with 24 berths. A forward cabin had 56 berths, which with accommodations for the crew totaled 135 berths, and it made 12 miles an hour with the tide. Later it was lengthened and fitted with a more powerful engine, and continued in the Albany service for sixteen years, taking part in the marine parade in celebration of the opening of the Erie Canal.

Commodore Vanderbilt became owner of *Chancellor Livingston* when it ran to Providence and it ran as an opposition boat on the Boston-Portland line in 1852, continuing until old age occasioned breaking up.

John Stevens' first commercial steamboat, *Phœnix,* met the opposition of the Fulton monopoly in Jersey-New York waters, and so went to Philadelphia, where it began to run to Bordentown in 1809, becoming a link in the fast stage-coach and boat service connecting New York and Philadelphia. In spite of this successful demonstration, few boats were built in the following years, for fear of the monopoly, the exceptions being *Philadelphia, Pennsylvania* and *Ætna. Ætna* blew up in New York harbor in 1824 with loss of life.

Baltimore began steamboat service with *Eagle,* a steamboat built in New York in 1813. In 1816 this boat was joined by *New Jersey.*

Steamboats got off to a poor start in Boston waters. The first steamboat out of Boston was a commercial failure. A boat had been built to run between Boston and Salem in 1817, but on its initial trip met with engine trouble and the passengers had to return in stages. This was a blow to steamboat prestige, and the owners sent the boat to Charleston, South Carolina, but it was lost on the trip south.

EARLY LONG ISLAND SOUND STEAMERS

Captain E. S. Bunker was an important steamboat master of early days, having first commanded *Clermont*. He had advanced ideas of luxurious travel. One of the earliest newspaper advertisements of American vessel transportation service read:

SLOOP *EXPERIMENT*—FOR PASSENGERS ONLY

> Captain Bunker informs his friends and the public that he has commenced running a sloop of about 110 tons burthen, between the cities of Hudson and New York, for the purpose of *carrying passengers only*. The owners of this vessel, being desirous to render the passage as short, convenient and agreeable as possible, have not only taken care to furnish her with the best Beds, Bedding, Liquors, Provisions, etc., but they have been at very great expense and trouble in procuring materials, and building her on the best construction for sailing, and for accommodation of *ladies and gentlemen travelling on business or for pleasure.*

Captain Bunker, the first to venture upon the open sea in a steamboat, *Phœnix,* was the first to command a Long Island Sound steamer, *Fulton*. Hell Gate was an object of terror. The East River, rushing up the Sound, at particular times of tide pours a tremendous flood between Ward's Island and Long Island. The passage, narrowed to a few yards, with a fast-swirling, on-rushing tide, past the old "Hog's Back" and Gridiron turns, turned at right angles, and formed a whirlpool around the "Pot Rock" which, even with the surface of the water, was fatal to any vessel that touched it.

The passage through that Gate of Hell was described by a passenger on *Connecticut's* first trip, Captain Bunker commanding, as follows:

> I remember that long-agitated question, whether steamboats could be made capable of sea navigation, or so constructed as to travel our sounds, bays and coasts in safety. The question was put to rest by the enterprise and skill of Captain Bunker. In *Fulton,* constructed with a view to

crossing the Atlantic, he undertook the navigation of Long Island Sound. During a season of no extraordinary moderation, including the two equinoctial storms, Capt. B. lost but a single trip.

Another doubt remained to be removed. It was supposed impossible to pass the celebrated passage of Hell Gate against the tide, at the strength of the current. This was reserved for Captain Bunker to remove, and I happened to be on board at the time of the novel and interesting experiment. A number of respectable passengers witnessed the performance. It was in the steamboat *Connecticut,* built with all the strength to be obtained and careful workmanship.

The machinist (McQueen) was accompanying his engine to prove its powers, with careful and ingenious assistants, and some of the owners were on board also. The first attempt to pass the point of greatest pressure of the contracted stream was unsuccessful, and the boat was compelled to retreat into an eddy and increase her steam. With renovated power the effort was repeated, every man fixed immovable at his post, the passengers properly stationed in different parts of the boat, the engineers employing their utmost diligence to force the passage. They were again defeated by the supposed resistless stream, and again retreated, racked, strained, and shivering from the contest.

After a short pause and fresh preparation, it was resolved to make a third endeavor, and test the strength of the machinery by the greatest trial it could be expected to bear. After a severe struggle, in which a weaker vessel would have been disjointed and torn to pieces, the headstrong current yielded to the giant power of steam, and the triumph of art over nature was effected. A few moments of greater breathless anxiety I scarcely ever witnessed.

Mechanical science achieved a victory over elementary force, and overcame an obstacle heretofore deemed in this manner altogether insurmountable. The courage and perseverance of Captain B. were so conspicuous on this occasion, that I can never forget the impression made upon all present.

On the trip above referred to, *Connecticut* passed through the Sound to the Connecticut River, ascending to Middletown, and was

perhaps the first steamboat to navigate the river since Samuel Morey's voyage thirty years previously. *Connecticut* is famed in steamboat history as the first of a long line of Sound steamers. It made its first trip from New York to New London, 115 miles, September 21, 1816, in twenty-one hours; and in October commenced regular runs, which continued through many years. It was 150 feet length, 26 feet beam, cost $80,000, and finished its days, as so many other steamboats which came later, on the Boston-Portland run.

Captain E. S. Bunker died in 1847, aged seventy-five years. He had commanded *Benjamin Franklin* out of Providence and had built *Washington* for the same route. With Captain R. S. Bunker, master of *President,* he operated the New York-Newport-Providence line, and for a few years previous to his death was a local steamboat inspector in Providence.

The Fulton-Livingston monopoly realized the business opportunities of Long Island Sound ports, and *Fulton* and *Connecticut* were built for that service. The War of 1812 prevented them from running, as it was deemed unwise to expose them to English guns. In 1817 they sent *Fire Fly* to run between Newport and Providence, a small vessel, slow, and with poor accommodations, requiring twenty-eight hours to reach Newport from New York.

The eight boats in the early Hudson River New York-Albany service did a large business. In 1819 the Comptroller of the State reported that the tax imposed upon persons who traveled by steamboats in 1817 and '18 had amounted to $41,440, of which $3,819.82 was spent in collecting the tax. There was no tax for distances of 29 miles or less; but for more than 30 miles and less than 100 miles a tax of 50 cents was charged; and above 100 miles the tax was $1.

THE END OF THE FULTON-LIVINGSTON MONOPOLY

The monopolistic grants by the States to Fulton and his associates did much to delay the introduction of steamboats. It was not until the high court had brought a washout of the subject, and Fulton's claims denied, that progress began to be made. Thus fifteen years had elapsed, following *Clermont's* successful demonstration, before steamboat routes began to be occupied and the steamboat filled its large place in quick and cheap transportation.

Such rights as Fulton and Livingston held they were willing to share with others upon reasonable terms. They did not demand return for themselves until all operating expenses had been paid and the employed capital had first been compensated. The public temper

was against monopoly, and the desire to see it crushed was general. The issue became involved with other far-reaching questions, as State's rights, raised for the first time in the young country.

Fulton died before the fight assumed large proportions. Fitch, too, had died before his claims as a pioneer were advanced. Livingston had carried a firm purpose to the point of obstinacy and contributed to the solidification of resentment. The monopoly remained a menace until 1824, frightening competition and repressing natural ambitions to enter the field.

Livingston went to France as United States Minister, and was joined by Joel Barlow, an American business man who afterward became Minister. Barlow brought to France the plans of a small steamer, *Polacca,* which had been tried successfully upon the Passaic River in 1798 by Nicholas Roosevelt. Fulton lived with Barlow in Paris, and so met Livingston.

The Legislature of the State of New York passed a law in 1798 giving to Chancellor Livingston the exclusive privilege of "navigating all boats that might be propelled by steam, on all waters within the territory, or jurisdiction of the State, for the term of twenty years, provided he should, within a twelvemonth, build such a boat, the mean of whose progress should not be less than four miles an hour."

This was a transference of the right previously conferred upon Fitch and which was taken away because he had not met the conditions. In October, 1798, a trial was made of Livingston's boat when a speed of only three miles was realized and the State's offer did not then become effective. Livingston's boat was variously moved on different experimental trips, by upright side paddles, endless-chain paddles, and by two stern wheels that were not upright, but apparently revolved horizontally on the same plane and in opposite directions. Each blade was probably hinged in order that it might fold up when returning.

The grant issued conditionally to Livingston, and the terms of which had not been complied with, was again bestowed by the New York Legislature April 5, 1803, for twenty years from the passage of the law, provided that a boat was run at four miles an hour speed within two years. Fulton was made a joint beneficiary with Livingston. Again it was impossible for the partners to meet the conditions, and the period was again extended to 1807. It was in this year that *Clermont* was completed and put into service.

The act allowed Fulton and Livingston to seize any steamboat run by others without their license, and to collect a penalty for every

trip so made. The legislators who had passed the bill did not take it seriously, believing it to be an idle and whimsical project, unworthy of legislative attention.

When demonstrations had been made by *Clermont, Raritan,* and *Car of Neptune,* opposition to the monopoly sprang up, and in 1810 a rival company was formed in Albany to run steamboats on the Hudson River. An effort to stop this competition by injunction was made, but restraining order was denied on the ground that the State statute permitting the monopoly in steam transportation was in conflict with national patent legislation and superseded by it.

Upon appeal to higher court the decision was reversed and Fulton was allowed to prove, by the merits of his case, that rival vessels should be permanently restrained from competitive activity. While Fulton and Livingston had benefited by the New York State legislative acts of 1798, 1799, 1803 and 1807, it was found that there were not sufficient teeth in the laws. The forfeiture of competing boats, and penalties for their use, were asserted without provision for enforcing the decree, except such means as were afforded under ordinary process of law.

Had the monopoly sued a competitor it might be possible for the rival to have prolonged the litigation for years, and to have kept opposition boats in competitive operation meanwhile, even though the decision eventually went against the infringer of the Fulton-Livingston rights. The owners of the monopoly in 1811 secured a fifth law, in which their right to demand forfeiture of any usurping steamboat was reaffirmed in more specific terms. This law compelled the courts to grant injunction whenever Fulton should bring suit for forfeiture, while a further provision made the rival owner liable to a fine of $2,000 and imprisonment for one year for steamboat operation without license.

While this provision was considered air-tight, it could not be held retroactive, and so did not hold against steamboats built previously by the Albany company; nor did the law reach *Vermont,* a steamboat then running on Lake Champlain. The courts and State Legislature went the extreme limit to restrict the use of steamboats, but the public was aroused and gave its patronage to the opposition line, and advocates of the free and unrestricted use of steamboats freely asserted that Fulton had not invented steamboats and had neither legal nor moral rights to their exclusive employment. The Fulton-Livingston company and its supporters denounced the opposition as rogues, rascals, law breakers and ingrates, and Livingston wrote two pamphlets in support of the monopoly.

The opposition boat to Albany received the largest patronage and a compromise was effected that the dispute might be kept out of the national courts, and the business was thereafter divided with the newcomers.

At first Fulton had no other protection than that granted by the State of New York, and while there was a real need for steamboats upon the waters of other States, and plenty of enterprise to supply the want, fear of costly litigation retarded the general introduction of steamboats.

The application of steam-power to water transportation created new and unforeseen questions of relationship between individual States, as well as between them and the Federal Government. The fact that other States had given similar grants to Fitch was the basis of a widely held belief that persons or companies could properly hold franchises permitting exclusive right to supply steamboat transportation in States bestowing such grants. The courts, in many instances, held like views, though the rivers on which the steamboats traveled traversed more than one State, or served as boundary lines.

Not only did this controversy concern the question of properly protecting inventive genius, but also involved the harmony of Federal and State jurisdictions and affected the whole country in a way not before approached by any other phase of internal relationships. Few leaders of public opinion anticipated the growth of the nation, or the inevitable elimination of State lines in matters involving social and industrial affairs of the country.

The attitude of the people indicates that their perception was more trustworthy than the vision of the leaders. This lack of understanding is evidenced by the opinions of eminent judges who decided, in New York, that a State had power to halt or otherwise regulate all traffic at a State boundary line, no matter whence the traveler came or where he was going. Judge Yates, in an opinion, said: "It never could have been intended (by the Federal Constitution) that the navigable waters within the territory of the respective States should not be subject to their municipal regulations."

Chief Justice Kent, joining the unanimous opinion, declared: "Hudson River is the property of the people of this State, and the Legislature have the same jurisdiction over it that they have over the land, or over any of our public highways, or over the waters of any of our rivers and lakes. They may, in their sound discretion, regulate and control, enlarge or abridge the use of its waters, and they are in the habitual exercise of that sovereign right. . . . It is

said that a steamboat may become the vehicle of foreign commerce, and it is asked, can then the entry of them into this State, or the use of them within it, be prohibited? I answer, yes, equally as we may prohibit the entry or use of slaves, or of pernicious animals, or an obscene book, or infectious goods, or anything else that the Legislature shall deem to be noxious or inconvenient."

Since New Jersey also abutted the Hudson River for a distance it felt the heavy hand of the New York monopoly, and in 1811 the New Jersey Legislature came to the aid of its citizens, declaring that New York unjustly claimed an exclusive jurisdiction over the waters of that State. It was then that New York passed its further law declaring forfeited any vessel using steam found navigating against the provisions of the previous laws; and a means, by injunction, was provided against removing from the jurisdiction of the State, steamboat property that had been seized.

New Jersey retaliated with new laws passed in 1813 and 1818 to uphold and enforce its statute of 1811; and meanwhile Fulton and Livingston kept suing out injunctions and making it as difficult for New Jersey citizens to run steamboats as for New Yorkers to operate without licenses.

It was in 1820 that efforts were made to break down the Fulton-Livingston grant. The endorsement of the bill "Gibbons *vs.* Ogden" offered no suggestion of the many important propositions of Constitutional Law which immediately came forward, the suit being skilfully handled by Daniel Webster. The result of the suit was to establish the authority of the Federal Government to regulate navigation and other interstate relations.

The opposition's first move was to inspire the New Jersey Legislature to pass an act providing that if any of its citizens should be "enjoined or restrained by any writ of injunction, or order by the Court of Chancery of the State of New York, by virtue, or under color of any act of the Legislature of that State, from navigating any boat or vessel moved by steam or fire, belonging in part, or in whole, to him, on the waters between the ancient shores of the State of New Jersey and New York, the plaintiff or plaintiffs in such writ or order shall be liable to the person or persons aggrieved for all damages, expenses and charges occasioned thereby, to be recovered with triple costs," etc.

A situation was created where two sovereign States had passed laws in direct conflict. The Fulton-Livingston interests sued out their injunctions against two boats, *Bellona* and *Stoudinger* (later known as *Mouse-in-the-Mountain),* owned by Gibbons and operated

as a ferry from the Battery in New York across the bay and Kill von Kull to Elizabethtown, New Jersey.

Thomas Gibbons, owner, was principal in the suit brought by Aaron Ogden in behalf of Fulton and Livingston. Ogden had been Governor of New Jersey, and was the owner of a similar ferry service between New York and Elizabethtown. He had first opposed the monopoly in 1814, in an effort to upset Fulton claims, and himself claiming to be the proprietor of "an ancient and accustomed ferry" and he sought to further strengthen his position by securing a coasting license from the United States Government, and by assignment to himself, from the Fitch heirs, of the original patent granted to Fitch, and all national and State rights of every sort in connection with it.

Having fortified his demand, Ogden presented a statement to the New York Legislature, asserting his right to maintain a steam ferry service for the public accommodation, and his memorial was considered by a committee for the New York Legislature, of which William Duer was chairman. The committee reported that the steamboat had been patented by Fitch; that Fitch or his assignee had all rights to the invention during the life of the patent; that the use of the contrivance afterward fell to the public; and that the exclusive legislation in favor of Fulton and Livingston was unconstitutional and oppressive.

The committee's report was rejected by the New York Senate, and Ogden was denied the privilege he asked. Ogden next brought the matter before the New Jersey Legislature; but here, too, he was defeated; and so powerful were the influences marshaled against him that New Jersey repealed its former measures denying New York steamboats to use New Jersey waters. Beaten at home and in New York, Governor Ogden made peace with the Fulton-Livingston interests, and a compromise was effected, the quarrel being kept out of the courts, and a decision avoided.

Ogden, who had fought and been beaten by the monopoly, was, ten years later, placed in position of complainant for the Fulton interests. He obtained an injunction against Thomas Gibbons' ferry, on the ground that his own rights had been invaded, and the Court of Errors sustained him because the case, in its opinion, presented no conflict between State and national laws and jurisdiction.

The case in New Jersey came before the Supreme Court of the State in 1822 and Chief Justice Kirkpatrick held, after discussing State's rights and constitutional privileges, that New York had attempted to interfere with the ancient shores of New Jersey, and that

Gibbons was entitled to damages and triple costs under the enactment of that State. The Chief Justice advised, however, that the question ought to go before the United States Supreme Court, Gibbons appearing as the appellant from the decree of the New York Court.

It was the *cause célèbre* of its day, the people of the whole country taking sides for and against the monopoly, and the clash of authority almost precipitated an interstate war.

Oakley and Emmett were the monopoly counselors, while Gibbons and his associates retained Daniel Webster, then at the top of his career, as pleader. Every precaution was taken to make the case one of which the Supreme Court would have to take cognizance, the Gibbons boats having secured a license under the act of Congress, 1793, governing vessesls employed in coastwise trade, and with which license the injunction orders of New York State courts unwarrantably interfered, as was claimed. The case came to trial February, 1824.

Webster placed before the high court a clear picture of the existing and intolerable conditions. He covered the whole ground of the dispute and contended that the laws passed by the New York Legislature were unconstitutional, inasmuch as the Federal Constitution had declared "Congress shall have power to regulate commerce with foreign nations and among the several States and with Indian tribes." Webster argued that the State had attempted to usurp the specially delegated powers it had given Congress; that commerce was navigation and that Federal regulations must apply.

"The appellant," argued Webster, "had a perfect right to come from New Jersey to New York in a vessel owned by himself, of the proper legal description and enrolled and licensed according to the law. The Constitution made the law of Congress supreme," he pleaded, "when State laws came into opposition with them."

For the monopoly Oakley argued that the power given to Congress by the sovereign State of New York was limited, in that all rights not delegated were reserved. The State had a right to legislate on all causes of concurrent power, although Congress had acted in the same power and upon the same subject matter. He cited that the State could make counterfeiting of the coin of a foreign country an offense and provide a punishment, as had also Congress, all of which showed that Congress considered the power to punish such offenders as concurrent.

Oakley claimed that a restraint imposed by the laws of New York on the navigation of the waters of the State was merely an internal

regulation of the right to transit or passage from one part of the State to another. It was a regulation which, if even indispensable to public safety, Congress could not make. The power to make it, therefore, must be in the State. The State law was, in fact, only a regulation of the internal trade and right of navigation within the territorial limits of the State. The power to regulate this was exclusively in the State. The State had exercised it in the same manner, both on land and water, and the law was valid, although incidentally it might affect the right of intercourse between the States.

Emmett, associate of Oakley, showed that Massachusetts in 1815 had made a similar grant to J. L. Sullivan for exclusive use of the Connecticut River twenty-eight years after the expiration of his patent, which in 1819 was extended for two years. New Hampshire had given Sullivan a similar grant for the Merrimac in 1816; while Pennsylvania had granted James Barnes such a right from Wilkes-Barre to Tioga Point on the borders of New York State. Georgia had made a similar grant to S. Howard in 1814, for all the waters of that State for steamboats, and in 1817 granted to a company similar right for twenty years. Tennessee had extended a like right for the Tennessee River.

Contending that Congress had no right to regulate the internal commerce of any State, Emmett maintained that none of its regulations could affect so much of the exclusive grant as restrained vessels which were used only within the States, nor could it give to any man permission to carry on any steamboat navigation which in its beginning and ending was entirely within the waters of the State, as between New York and Albany, or on Cayuga Lake, Lake Ontario, and the Niagara and St. Lawrence Rivers to Ogdensburg. The only question, he admitted, was as to navigation between foreign countries or another State and New York.

Emmett's outstanding argument was that if the power of Congress over commerce was exclusive, then it must also have exclusive control over the means of carrying it on, and no State would then be mad enough to expend large sums in canal building, as New York was then engaged, and which were susceptible of being used for intercourse between the States or for foreign commerce, if Congress had the right to regulate the navigation and vessels that were the medium of foreign trade and trade between the States.

The country had not then pushed its way far west, and Emmett counted upon this remoteness when he asserted, "If ever the day should come when representatives from beyond the Rocky Mountains shall sit in the national legislature, if ever a numerous and inland

delegation shall wield the exclusive power of making regulations for our foreign commerce, without community of interest or knowledge of our local circumstances, the Union would not stand. It cannot be the ordinance of God or nature that it should stand. It had been said by high authority that the power of Congress to regulate commerce sweeps away the whole subject matter. If so, it makes a wreck of State legislation, leaving only a few standing ruins that mark the extent of the desolation. The position, however, is not correct."

William Wirt of Virginia, Attorney-General of the United States, presented the final arguments in support of Daniel Webster's, that the State law in conflict with powers vested in Congress, and though concurrent, as claimed, was, because of conflict, void. He invited the Court to "interpose its friendly hand and extirpate the seeds of anarchy which New York had sown." He suggested that a war of legislation already commenced might, in the usual course, become a war of blows. The country would then be shaken by civic strife and the republican institutions perish, while the Constitution would fall and the last hope of a nation be gone.

Mr. Chief Justice Marshall handed down his memorable decision, for the length of which he apologized. He had added another important opinion to the number which he had given to establish the legal foundation of the new nation, and to make its new and untested Constitution workable and respected organic law. He held that Congress, in being given the power to regulate commerce, was given the power to regulate navigation. It was as expressly granted as if the term "navigation" had been added to the word "commerce" already in the Constitution.

"But," said the opinion, "the power to regulate commerce does not look to the principle by which boats are moved. That power was left to individual discretion. The act demonstrates the opinion of Congress that steamboats may be enrolled and licensed in common with vessels using sails. They are entitled to the same privileges and can no more be restrained from navigating waters and entering ports which are free to such vessels than if they were wafted on their voyage by the winds instead of being propelled by the agency of fire. The one element may be as legitimately used as the other, for every commercial purpose authorized by the laws of the river, and the act of a State inhibiting the use of either to any vessel, having a license under the act of Congress, comes, we think, in direct collision with that act."

In this epochal opinion Mr. Chief Justice Marshall was supported

by a concurrent opinion on some additional grounds by Mr. Justice Johnson. The death-knell of the Fulton-Livingston monopoly was rung and the decree which the United States Supreme Court issued declared "the several laws of the State of New York which prohibit vessels, licensed according to the laws of the United States, from navigating the waters of the State of New York, by means of fire or steam, repugnant to the Constitution and void."

Capital which had been timid to embark in steamboat enterprises was available everywhere and the rivers and sounds and lakes became crowded with steamboats which supplied the first important transportation services which the country sorely needed.

CHAPTER IV

Hudson River Steamboats

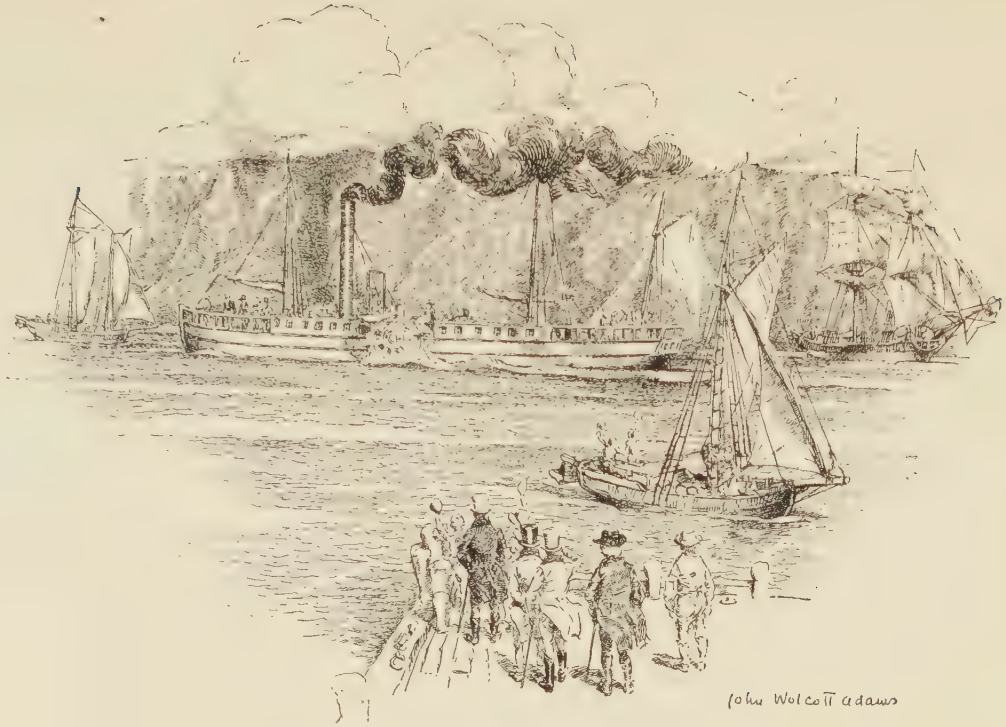
THE Hudson is celebrated for Fulton's demonstration with *Clermont* and for the development of a type of fast river steamboat. Cold Spring-on-the-Hudson was the location of West Point Foundry, early builders of marine engines. Many operators began their careers on the Hudson, linking their names with transportation in America. Captain Samuel Jenkins and Captain Samuel Wiswall, *Clermont's* masters, and Stoudinger and Charles Dyker, who followed Fulton as engineer, were first of a long line of distinguished steamboat officers.

Clermont, built in 1807 by Charles Brownne, New York, was 150 feet length, 13 feet beam and 7 feet depth of hold. The Boulton & Watt engine had cylinder 24 inches diameter by 4 feet stroke, and the paddle wheels were 15 feet diameter with 4 feet face of buckets and 2 feet dip. Boilers were low pressure type, 20 feet length, 7 feet high and 8 feet wide.

Clermont was advertised as a regular passenger boat, New York and Albany service, in the New York *Evening Post,* Albany *Gazette* and other papers, September, 1807:

> "The North River Steamboat will leave Pauler's Hook Ferry (foot of Cortlandt street) on Friday the 4th of September at 9 in the morning, and arrive at Albany on Saturday at 9 in the afternoon. Provisions, good berths and accommodations are provided. The charge for each passenger is as follows:

To Newburgh	dols 3	time 14 hours
Poughkeepsie	4	17
Esopus	4½	20
Hudson	5	30
Albany	7	36



Clermont, the creation of Robert Fulton

> For places apply to William Vandervoort, No. 48 Courtlandt street on the corner of Greenwich street. Way passengers to Tarry Town, &c &c will apply to the captain on board." September 2, 1807.

The New York *Evening Post,* October 2, 1807, reported:

> "Mr. Fulton's new invented STEAMBOAT which is fitted up in a neat style for passengers, and is intended to run from New York to Albany as a packet, left here this morning with 90 passengers, against a strong head tide. Notwithstanding which it was judged she moved through the waters at the rate of six miles an hour."

Clermont was enlarged to 18 feet beam the following winter and the name changed to *North River. Car of Neptune,* Captain Roorback, 1809, measured 175 feet length, 24 feet beam, 7 feet depth of hold and made Albany in 32 hours. *Paragon,* Captain Wiswall, was 331 tons, 173 feet length, 27 feet beam and 9 feet depth of hold, fitted with low pressure engine with cylinder 32 inches diameter by 4 feet stroke. The copper boiler was 21 feet length, 9 feet wide and 10 feet high. Efforts were made to increase the heating surface of the boiler with interior piping, but difficulty was met and the piping abandoned.

> "A passenger who lately came down from Albany in the *Paragon* cannot, in justice to his own feelings, refrain from mentioning the superior accommodations of this extraordinary vessel," said the New York *Evening Post,* April 11, 1812. "With more room than any steamboat on the river, being of the same length of keel with the frigate *President,* and considerably wider than *Car of Neptune,* it may be added that in speed she excels all competitors. It is not too much to say that she unites in herself convenience, neatness, elegance and dispatch beyond what has been yet seen in this country."

Car of Neptune ran until 1817, being retired when *Chancellor Livingston* came on. *Paragon* continued until 1820, when it hit a rock and sank near Albany.

Fire Fly, 1812, of 81 feet length, 19 feet beam and 7 feet depth of

Paragon, second of Fulton boats with paddle wheels encased

hold, ran to Newburgh. *Richmond,* built in 1814, was intended for service on James River, but the War of 1812 interfered and *Richmond* succeeded *North River.* "The public are informed that the old North River Steamboat is laid aside, and the staunch new boat, called *Richmond* with handsome accommodations, substituted in her stead," said a newspaper announcement. *Olive Branch,* Captain H. Moore, 112 feet length, running from New York to New Brunswick; *Swift,* running to Elizabeth; *Franklin* to Shrewsbury; *Atlanta* to Elizabethtown Point, *Nautilus* to Staten Island and *Bellona,* from Staten Island to New Brunswick, *Union,* 1827, *William Cutting,* 1827, *Over,* 1840, were early Fulton steamboats in New York waters.

Hope and *Perseverance,* sister steamboats, came in 1811, managed by Captain Elihu S. Bunker, who had operated packet sloops between New York and Hudson, in association with Albany capitalists. Robert McQueen built the engines and boilers. They were patterned after the Fulton boats, 149 feet length, 20 feet beam and 7.7 feet depth of hold, and ran one season, when the opposition was forced to quit.

Fulton was built to send abroad, but the War of 1812 interfered and also with the proposed New York and New Haven service. *Fulton* came to the Hudson instead, the announcement suggesting the public fear of the British fleet.

> "The public are respectfully informed that the subscriber has commenced running the steamboat *Fulton* between the cities of New York and Albany for the accommodation of passengers. The boat was built to ply between New York and New Haven, but will be employed on the Hudson river until the cessation of hostilities enables the proprietors to put her on her destined route. *Fulton* has good accommodations and is a very swift boat. The complement of passengers is limited to 60 and the price is therefore necessarily raised to ten dollars. She will start from Albany every Monday morning at 9 o'clock and from New York every Friday evening at the same hour. For passage apply on board at Steam Boat Dock. Elihu S. Bunker, Albany, May 16, 1814."

Chancellor Livingston, Captain Cochran, was built by Henry Eckford and completed in 1816 for the North River Steam Boat Company, being 157 feet length, 33.8 feet beam, 10 feet depth of hold, with engine by James P. Allaire, successor to Fulton's engine building

business. *Chancellor Livingston's* first engine had cylinder 44 inches diameter by 5 feet stroke, with two flywheels 14 feet diameter, connected by pinions to crank wheels, and rated 75 horse power. The copper boiler, 28 feet length by 12 feet width, weighed 44,000 lbs. Fulton's quest for added heating surface was shown in a cylindrical flue and two smaller return flues, and the boiler had a false front. *Chancellor Livingston* had two stacks originally, and later three; measured 496 tons and cost $110,000. The fastest trip to Albany, 18 hours, was made December 5, 1817. *Chancellor Livingston* ran on the Hudson until 1828 and then from New York to Providence.

Thomas Gibbons fought the Fulton monopoly with *United States,* running from Perth Amboy to New York, and, not being molested, extended the route to Albany. After two trips the North River Steam Boat Company obtained injunction claiming it was not to be disturbed "in their enjoyment of their exclusive privilege, under the several statutes of the State." *United States* then ran to New Haven and returned to the Hudson in 1831, as a passenger and tow boat, under command of Captain Hitchcock. *United States* was built by J. Williams, New York, in 1821 and was 140 feet length.

James Kent, Captain Wiswall, was built by Blossom, Smith & Dimon in 1823 for the Fulton monopoly, 135 feet length and 31.6 feet beam, with engine by Allaire. *James Kent* continued as a liner, then as a towboat, and latterly as a coal barge on the Delaware & Hudson canal and was only broken up in 1895, having long served as a stake boat. *Saratoga,* a tender for the line, was built in 1823, the last of the Fulton monopoly boats, 98 feet length, 22.6 feet beam and 8 feet depth of hold.

The Fulton & Livingston line made much money in the seventeen years of its undisputed sway on the Hudson until knocked out in 1824, but spent enormous sums defending its rights. The management was ultra conservative and did not prosecute its opportunity to the limit of possibilities, as was demonstrated immediately the river had been declared free. Many coveted the rich river trade, and when the monopoly fell the Hudson was invaded by old and new steamboats, and a new era of transportation progress begun.

The first new steamboats to come to the open field were *Constitution,* Captain Wiswall, and *Constellation,* Captain R. G. Cruttenden, built by Brown & Bell, New York, in 1823. *Constitution* was 145 feet length, 27 feet beam, and *Constellation* was 4 feet longer. J. Birkbeck built both engines, *Constitution's* being 42 inches cylinder diameter by 9 feet stroke and *Constellation's* cylinder 44 inches diameter by 10 feet stroke. *Constitution's* boiler exploded, June 21,

1825, near Poughkeepsie and two persons were killed. When converted to a towboat *Constitution* was known as *Indiana. Constellation* was broken up and the engine installed in a Lake Erie boat.

Chief Justice Marshall, Captain Sherman, was named for the distinguished jurist and ran to Troy, making a record of 14½ hours to Albany and known as "the race horse of the North River." *Chief Justice Marshall* had the honor place in the naval parade arranged for the visit of the Marquis Lafayette. Blue plate dishes pictured *Chief Justice Marshall* making a "fly landing."

Desire for speed and awkward handling of early steamboats in docking occasioned landing and embarking passengers from a small boat swung on a long line. Approaching a way landing passengers quickly hopped ashore, or aboard the small boat, which was then hauled in, the painter being wrapped several turns around the engine shaft and drawn in quickly by steam power. An early State law provided for fly landings, but when several persons had been drowned the "fly landing" law was repealed. Thereafter fast through liners made the important landings and local steamboats served smaller communities.

Commerce, Captain Seymour, was built in 1825 by C. Berg, New York, 130 feet length, 24.4 feet beam, 8.7 feet depth of hold and registered 371 tons. The engine was Wolff double-cylinder type, built by James P. Allaire, with cylinders 16 and 30 inches diameters by 4 feet stroke. *Commerce* had *Swiftsure,* Captain D. Peck, for consort.

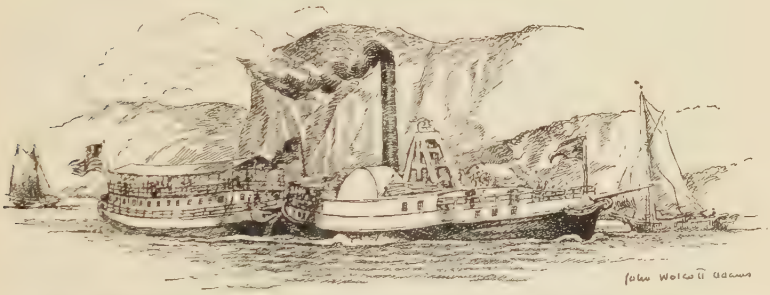
Disastrous boiler explosions created fear of steamboats and William C. Redfield of Cromwell, Connecticut, devised safety barges, built in the manner of steamboats, but without power, being towed by a steam vessel. "Passengers on board the safety barges will not be in the least exposed to any accident by reason of the fire or steam on board the steamboats. The noise of the machinery, the trembling of the boat, the heat from the furnace, boilers and kitchen, and everything which may be considered unpleasant on board a steamboat are entirely avoided," said the company's announcement.

The first safety barges were *Lady Clinton* and *Lady Van Rensselaer.* Thomas L. McKenney, a commissioner of the Interior Department, made a barge trip, June, 1826, on his journey to negotiate with the Northwest Indians. He wrote of such travel:

> "I left New York in *Lady Clinton* yesterday morning at 9 o'clock. I was struck with the admirable invention, and with the extent and variety and perfection of the accom-

modations. This barge resembles the finest steamboat. There is splendor, too, and as if the inventive genius of the owners was apprehensive that the ear might grow jealous of the eye that organ has been provided for also with a fine band of music.

"This beautiful barge is towed by *Commerce,* an unusually fine steamboat of great power. The connection is by means of two pieces of timber, six feet long, united in the form of a pair of compasses and none of the motion of the steamboat is communicated to the barge. The cabin in



Safety barges were popular with timid passengers who feared boiler explosions

which we dined is below and is the same in which the gentlemen sleep, and 180 persons can sit down and each have elbow room sufficient for all purposes of figuring with the knife and fork in all the grace of which these two instruments are susceptible.

"At the bow is the bar, sumptuously supplied with all that can be desired by the most fastidious and thirsty. The berths occcupy the entire sides of this vast room; curtained in such a way as to afford retirement in dressing and undressing; there being brasss rods on which curtains are projected and these are thrown out at night. In the day curtains hang close to the berths.

"Next above this are the ladies' cabin and apartments—staterooms rather—furnished in splendid style, and in which a lady has all the retirement and comfort which the delicacy and tenderness of her sex require. Over the bar and upon the middle tier is an apartment where gentlemen dress,

shave and read. All around this second story, it being, I judge, not over two-thirds of the width of the boat, and resting upon the middle deck, is a fine walk with settees where you sit, when you please, and lounge. Then comes the grand promenade above, with awning protection from sun or rain."

Progress was slow and unencumbered steamboats landed their passengers several hours before those of the safety barges. No serious steamboat accidents occurred during the time of their operation and when the novelty wore off the public tired and the barges were converted for cargoes. The practice suggested a system of towing freight boats, established in 1826, and fleets of freight and canal boats, sometimes numbering forty or fifty, were set in motion by Mr. Redfield, who was superintendent of the Swiftsure Line for thirty years. Towboats carried barges and canal boats alongside, strung out three abreast on each quarter. It was not until 1860 that towing by long-line hawsers was adopted for the Sam Schuyler tugs on the Albany line.

Commerce was rebuilt in Brooklyn in 1856, the hull being lengthened, and when launched changed end for end and renamed *Ontario,* being then 216 feet length, 27 feet beam, 9 feet depth of hold and 395 tons. The engine cylinder was increased to 48 inches diameter by 12 feet stroke. *Ontario* long served as a towboat, being dismantled at Perth Amboy in 1893.

James A. and Robert Stevens, sons of John Stevens of Hoboken, were among the first to enter river competition. They had operated steam ferries across North River and steamboats on the Delaware River. They placed *New Philadelphia, Albany* and *North America,* large and fast steamboats, in Hudson River service.

There were sixteen steamboats in 1826. The number increased to 100 by 1840. In this early period were the Union Line, North River Line, Connecticut Line, North River Association, Troy Line, C. & D. Transportation Company and the Steam Navigation Company and later came the Old Line, Night Line, Eagle Line, People's Line, Citizens' Line, the Day Line and local lines to river ports.

Independence, built by Brown & Bell, New York, in 1827, was 128 feet length and 26 feet beam, with engine by John Stevens having cylinder 44 inches diameter by 10 feet stroke, and served long as liner and towboat before being broken up. *New Philadelphia* was built at Philadelphia in 1828 for service on the upper Delaware, and

began to run as an Albany day boat in 1830, being 170 feet length, 24 feet beam and the engine had cylinder 55 inches diameter by 10 feet stroke.

North America was a notable steamboat of the twenties with two walking beam engines

The advertisements of *New Philadelphia* read:

> "She has a low pressure engine and her boilers are not on the boat, but are so placed over the water, on her guards, which project from her sides, as to render it almost impossible that any passengers should receive injury from an accident to the boiler."

New Philadelphia's boilers were the first to be placed on the guards, and the engine was the first to be fitted with double poppet valves, afterwards generally used in beam engines. *New Philadelphia* became a towboat.

Albany, 398 tons, was built by J. Vaughn in 1826 at Philadelphia and was 212 feet length, 26 feet beam and 9 feet depth of hold, with engine having cylinder 65 inches diameter by 10 feet stroke. During the winter of 1839 *Albany* was lengthened by John Englis, Brooklyn, to 289 feet and the beam increased by 2 feet. *Albany* was commanded at that period by Captain James Benson, a fast boat, and ran from New York to Albany, September 25, 1840, in 8 hours and 35 minutes.

Albany, a Hudson River day liner of the twenties

Victory, Captain James B. McEntee, was built by M. Kenyon at Albany in 1827 and was owned in Albany. The engine, built by the West Point Foundry, was considered to be too powerful and frequently gave trouble. *Victory* was outclassed, as a liner, by the competition and went to the Connecticut River, but came back to tow coal barges out of Rondout in 1838, continuing until 1845, when it sank off Yonkers.

The same Albany interests financed *De Witt Clinton,* 571 tons, built by M. Kenyon in 1828. The hull was twice enlarged. The dimensions were given in 1833 as 233 feet length, 28 feet beam, 64 feet over guards, 10 feet depth of hold and 4.6 feet draught. West Point Foundry built the engine, the largest of the time, with cylinder 66 inches diameter by 10 feet stroke, and two iron boilers were carried on the guards. The Albany investors lost their holdings in *Victory* and *De Witt Clinton,* the latter being purchased by the

North River Line, and ran many years as a night boat to Albany. When broken up in 1843 *De Witt Clinton's* engine was installed in *Knickerbocker.*

Ohio, built at Albany in 1829, was 192 feet length, 30 feet beam, with two engines having cylinders 60 inches diameter by 9 feet stroke. *Ohio* continued many years on the Hudson and sank at Castleton.

Novelty was built by Chauncey Goodrich at Hyde Park in 1830 and measured 450 tons, 165 feet length, 24 feet beam and 9 feet depth of hold. Dr. Eliphalet Nott designed the engine and boilers, having so many new features that the boat was named *Novelty.* The shop where the engines were built became the Novelty Iron Works, East River, New York. *Novelty* had two engines, with cylinders 39 inches diameter by 6 feet stroke. Steam was furnished by twelve boilers, the first tubular type to be installed in a vessel and the furnaces exhausted through four stacks. Later *Novelty* was lengthened to 229 feet. *Novelty* ran with *Champion* and *Albany,* all day boats.

Champlain, 471 tons, a four-piper and one of the finest early steamboats, was built by Brown & Bell, New York, in 1832, and had two engines. *Champlain* was 180 feet length, 28 feet beam and 9 feet depth of hold. West Point Foundry built the engines, having cylinders 42 inches diameter by 10 feet stroke. *Champlain* had *Erie,* Captain Benson, for consort, built at the same time. The two ran as day boats to Albany until 1840, when they were succeeded by newer boats. *Champlain* turned 22 feet diameter wheels 28 revolutions, making 15 miles speed. *Erie's* engines were afterwards installed in *Troy.*

Westchester, Captain A. P. St. John, built by Smith & Dimon, New York, came out in 1832 and was 230 tons, 134 feet length, 23 feet beam and 8 feet depth of hold. *Westchester* ran to Albany and to Peekskill, and in 1838 to Hudson, being later altered for towing. Commodore Vanderbilt owned *Nimrod* which ran to Albany, 1834, with *Westchester.*

Robert L. Stevens, 298 tons, was built in 1835 at Kingston, 175 feet length and 34 feet beam, with engine having cylinder 36 inches diameter by 10 feet stroke. After 25 years of service *Robert L. Stevens'* engine was placed in *Charlotte Vanderbilt's* hull, and the new-made combination, then known as *William F. Russell,* started the Saugerties route just before the breaking out of the Civil War.

Highlander, Captain Robert Wardrop, 313 tons, was built in 1835 by Lawrence & Sneden, New York, for Powell, Johnson & Wardrop, to run between New York and Newburgh, and towed safety barges, *Newburgh, Susquehanna* and *Charles Spear.* Captain Robert War-

drop had previously commanded *Baltimore* succeeded by *Washington,* Captain Charles Johnston. *Highlander* was 175 feet length, 24 feet beam and 8 feet depth of hold. *James Madison,* Captain Perry, was a rival steamboat on the Newburgh route replacing *William Young,* and owned by Benjamin Carpenter. *William Young,* Captain Halstead, was built at Lowpoint in 1830, followed by *Legislator* and *Providence. Highlander's* engine was built by the West Point Foundry and *James Madison's* in Philadelphia. *Highlander* proved faster. *James Madison* had no engine room, the cylinder appearing just above the deck, and the engine had no front—all that could be seen being the two lifting rods. The starting bar stuck out in the gangway. Covering most of the gallows frame was a cast iron plate bearing the name of the engine builder, "T. Hollowat, Philadelphia, 1836." *Madison* was retired from Albany passenger service in 1853, when then known as *Oneida,* but the name reverted to *James Madison* with the conversion to a towboat.

Swallow, a Troy night boat, appeared in 1836 and raced with *Rochester,* a new boat, whenever the two hooked up. Starting from Jersey City, November 8th, at 4 p. m., the two boats kept within a short distance of each other, bucking a strong tide. *Swallow* slowed down for a few minutes, from engine trouble, near Hudson, and *Rochester* reached Overslaugh Bar, 5 miles below Albany, first in 8 hours and 57 minutes, *Swallow* being five minutes behind, but it was generally conceded that *Swallow* was the better boat.

Swallow was built by William Capes, Brooklyn, 426 tons, 224 feet length, 22 feet beam and 8.6 feet depth of hold. West Point Foundry built the engine with cylinder 46 inches diameter by 10 feet stroke. Proceeding down the river in a blinding snow squall, April 7, 1845, when off Athens, *Swallow* struck a rock, took fire, broke in two, and sank rapidly with loss of life. *Swallow* was racing with *Rochester* and *Express,* Albany line rivals.

The Hudson Rural Repository, reporting the disaster by an eyewitness, said:

> "On Monday evening, April 7th, the steamboat *Swallow,* Captain A. H. Squires, was on her passage from Albany to New York, and when opposite this city, in the Athens channel, ran upon a little rocky island, broke in two and in a few minutes sank. The alarm was immediately spread in Athens, and a large number of citizens rallied to the scene of the disaster, rescuing many lives. Soon after the steamboats *Express* and *Rochester* came down and promptly rendered

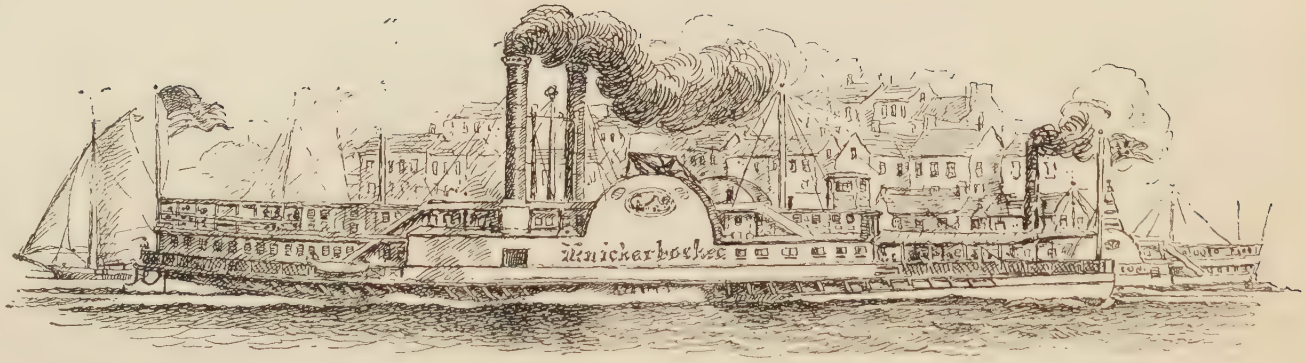
assistance, taking many passengers to New York. *Swallow* had on board a large number of passengers, but the exact loss of life is at present unknown. (The number lost was 15.) The night was extremely dark, with a heavy gale, snow and rain and very cold. Our citizens are yet busy about the wreck."

The rock where *Swallow* went ashore was known as Noah's Brig, named from the incident of a raft captain who mistook it for a brig on a dark night. *Swallow's* wreck was hauled to Valatia, seven miles, where the material was built into a two-story home, long known as Swallow House. Lithographs picturing the burning of *Swallow* had a big sale.

Rochester, Captain Pug Haughton, was built in 1836 by Smith & Dimon, New York, and was famous for speed, making the Albany trip, 146 miles, June 14, 1837, in ten hours. *Rochester's* wheel ropes were replaced with chains in 1841, the first to be installed aboard a steamboat, a safety measure suggested by the number of wheel ropes parted in steamboat fires, which had prevented burning boats from being steered shoreward. *Rochester* continued in night service until 1846 and was then broken up. *Rochester* was 491 tons, 209.9 feet length, 24 feet beam and 8.6 feet depth of hold, with engine by the West Point Foundry having cylinder 43 inches diameter by 10 feet stroke and later replaced with a cylinder 50 inches diameter.

Utica, Captain B. Truesdell, 340 tons, was built by William Capes, Brooklyn, in 1836 and was 180 feet length, 21.6 feet beam and 8.4 feet depth of hold. West Point Foundry built the engine with cylinder 39 inches diameter by 10 feet stroke. The boiler was set on deck, amidships, an iron shell, 18 feet length, 9 feet wide and 8 feet high.

Utica was built for Albany service and was known the length of the river, but ran longest in connection with the Erie Railroad's Piermont terminal and New York City. The nearest point that the Erie could approach New York was Piermont, below Nyack, twenty-five miles up the river. The New Jersey state line is two miles below Piermont. The Erie was built under a New York charter and New Jersey excluded it from the state. A long pier was built and Erie freight and passenger trains ran far out in the river to the steamboat landing in deep water. The railroad attempted to overcome the serious lack of a New York terminal by making fast steamboat connection. When the Erie had tunneled its way into Jersey City the



Albany had seven lines of prosperous steamboats before the railroad came

Piermont terminal was abandoned. *Utica* was converted to a towboat and condemned by the inspectors in 1875. The famous old *Norwich, Robert L. Stevens* and the Sandy Hook boats, *William H. Webb, Newhaven,* and *Doctor Kane,* were long in the Piermont winter service of the Erie Railroad. *Norwich* was then commanded by Captain Jacob DuBois.

SMALLER HUDSON RIVER BOATS OF THE '30'S

The few steamboats running under Fulton-Livingston monopoly in 1826 had increased to forty-five in the late '30's. In addition to the through regular liners there were smaller steamboats doing local business, and others that carried passengers and towed barges. The list includes *Arrow,* connecting Haverstraw and Nyack with New York, commanded by Captain Isaac Smith. *Arrow* was built by Lawrence & Sneden, New York, in 1837 and was rated 290 tons. Later *Arrow* was known as *Broadway* and *George Washington,* and in 1865 again *Arrow,* when a boiler exploded August 4th, off 30th street, New York, killing a number of persons.

Congress, built by Noah Brown in 1825 to run between New York and Raritan River points, towed barges and carried passengers on the Hudson under command of Captain Joseph Nelson. *Experiment,* Captain S. J. Tobias, was built at New Windsor and ran between New York and Cornwall. *Frank,* 175 tons, a market boat to Fort Washington, ran out of New York in 1838 and, under Captain J. B. Coffin, ran on the lower Hudson routes for many years. *Henry Eckford,* Captain Peck, named for the naval architect and built in 1825, with compound engine built by James P. Allaire, first ran to Bridgeport and came to the Hudson as a towboat. *Illinois,* built by William Brown, New York, towed barges and canal boats and carried passengers in 1838.

Jonas C. Heartt and *John Mason,* two small steamers, ran between Albany and Troy. *John Jay,* Captain D. Schultz, and *James Fairlie,* Captain M. Stoughton, were towboats of the '30's. *General Jackson,* Captain S. Van Wart, connected New York and Rondout in 1838, having been built by Smith & Dimon, New York, in 1828 for the Sing Sing route. *General Jackson* exploded a boiler at Grassy Point, near Haverstraw, in 1831, and was later repaired. Hudson was served by *Legislator* in 1838, which had been built by Noah Brown in 1824 for the Raritan River. Captain Thomas Newbery was *Legislator's* master when it towed whaling ships, which made Hudson their home port between 1830 and 1845.

Mount Pleasant towed barges and carried passengers to Albany, afterwards going South and was lost. *Norfolk,* from the South, ran between New York and New Windsor, under command of Captain H. B. Murray. *Norfolk* was built in 1826 for Chesapeake Bay service. *North America* was a notable steamboat, built in 1827, with two walking beam engines and two stacks, which came to the Hudson in 1828 and was wrecked the following year while docked at Albany by the breaking up of the ice in Island Creek.

New London, 181 tons, built in 1825 by Brown & Bell for Long Island Sound, was a towboat running to Troy in 1838. *New London,* Captain A. Hitchcock, carried a large mast upon which sail was spread. *Orange,* Captain Isaac Tallman, connected Nyack and New York, having been built in 1834. *Osceola* was built for Captain Albert De Groot to run to Fishkill (now Beacon) and later trips were extended to Poughkeepsie. *Oliver Ellsworth* from the Connecticut River, built in 1824, came to the Hudson as a towboat in 1838 under command of Captain J. T. Haviland and continued fifteen years on the river until cut through by ice and sinking just below New Hamburg. *Providence,* Captain Levi D. Woolsey, built in 1823 to run on Narragansett Bay, connected Newburgh and Albany in the late '30's, later commanded by Captain Frank Bogardus. Hudson and Albany were connected by *Rockland,* built at Nyack in 1830.

Sandusky, Captain L. W. Brainard, was a passage towboat connecting Albany and New York, and *Superior,* from the New Haven line, ran to Newburgh in 1836, commanded by Captain James H. Leeds. *Telegraph,* Captain J. S. Odell, 243 tons, connected New York and Sing Sing, while *Union,* Captain Nelson, built by Bishop & Simonson, ran to Sing Sing and Peekskill. *Warren,* Captain J. Mansell, was built in 1836 at Nyack and ran from there to New York. *Wadsworth,* built at Providence in 1830, was a local towboat at Albany. *William Young* ran to Low Point, above Newburgh, being built there in 1831, succeeded by *American Eagle* from East River. *Osceola* ran between Poughkeepsie and New York on the morning line. *Osceola* was fast and beat *Highlander* in a match race. *Gazelle,* Captain Philip Smith, ran between Poughkeepsie and Albany.

The Peekskill route was one of Commodore Vanderbilt's early steamboat ventures. He had commanded *Bellona* for Thomas Gibbons in the New York-Elizabethtown run. When Gibbons won his fight against Fulton's monopoly *Bellona* was sold to the Stevenses and Captain Jacob Vanderbilt, the Commodore's brother, was master.

Being the quick means of communication to Putnam county, the

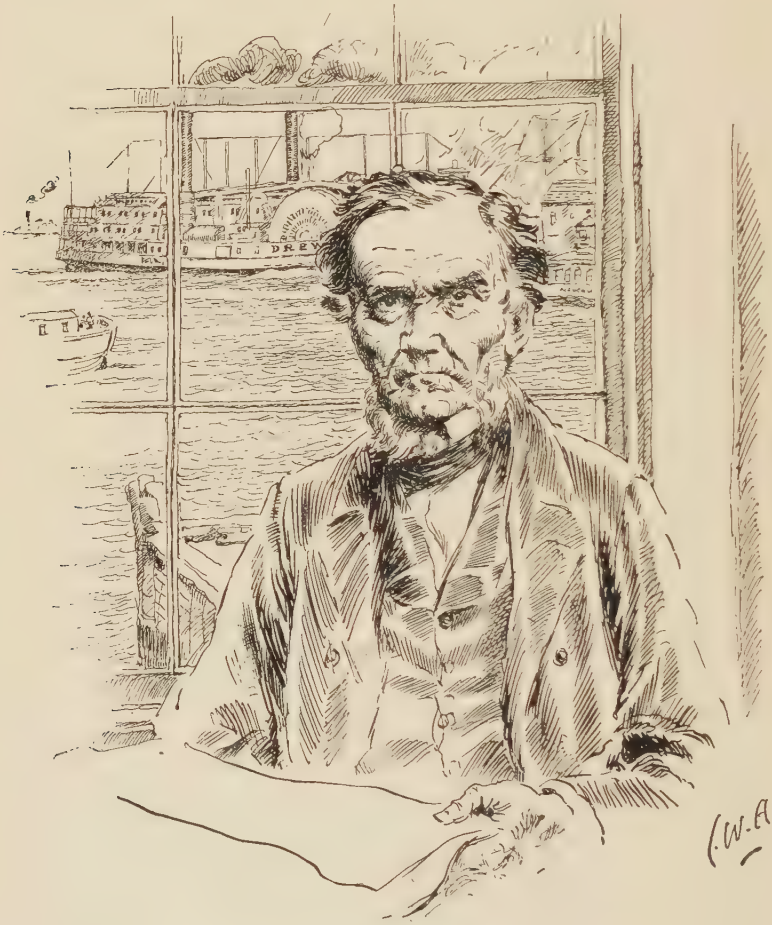
line prospered. Daniel Drew traveled by the Vanderbilt boats to reach his home in Carmel. Drew was beginning then his admiration of Commodore Vanderbilt, which, in spite of financial wars waged bitterly between them in after years, induced Drew to follow Vanderbilt's lead. Drew subscribed to the stock of a new company, investing $1,000. It was a "people's line" opposed to the Vanderbilt monopoly, and had many local stockholders. *Water Witch* was built for this opposition service.

Vanderbilt fought the newcomers, bringing out *Cinderella.* The boats ran each other hard through the season, and *Water Witch* lost $10,000. Daniel Drew went among Putnam county farmers inducing more to come into the company, and he increased the capital. In a rate war fares dropped to a shilling (12½ cents). When Commodore Vanderbilt realized that Drew was not to be run off in a few weeks of hard going he purchased Drew's holdings and those of James Smith. *Water Witch* went to the Connecticut River. Stockholders who had gone into the enterprise to better transportation and break Vanderbilt's monopoly, to build *Water Witch* and to provide additional working capital to bring Vanderbilt to Drew's terms, now felt themselves outraged. It was such a transaction as characterized Uncle Daniel Drew's later activities in steamboating, railroading and finance.

The North River Association was the strong operator in the Albany trade. Vanderbilt fell out with the directors and put on opposition boats, operating them so successfully that the Association bought him out, the terms providing that he should not reënter the Albany field for ten years. Daniel Drew was familiar with Vanderbilt's sellout, and he bought two boats, running them in competition with the North River Association for a year, when Drew was taken into the pooling arrangement, sharing profits with the Association.

Though Drew was now an insider, he purchased another boat through a dummy, and secretly fought his associates. The new boat cut prices and hurt business. Drew turned the conversation to the opposition of the newcomer at each directors' meeting until the directors authorized him to negotiate with the owner and buy him off. Drew consulted with himself, raised the directors' offer $8,000 and sold his dummy company to the Association and yet was not content, but sought control of the company. He quarreled with the directors and resigned, and bought *Westchester,* which was no match for the newer Association boats, and he next added *Bright Emerald,* purchased for $26,000, which ran as a night boat. *Westchester* and *Emerald* were the first boats of the People's Line.

When the fight waxed warm Drew added *Rochester,* which cost $50,000, and the Association countered with the new and splendid *Swallow.* The bitterness spread to the boats, which raced at every meeting, and the public became partisan.



Uncle Daniel Drew, an early steamboat magnate

The Association, weakened by Drew's attacks, was embroiled in a fight for which they had equipped the enemy with capital, and it sold out to Drew. Ruinous fares were put back to $3 and Drew recov-

ered all he had lost in the fight. The prosperity invited competition and rates dropped again, and a new trick introduced when $1.50 fares were charged one night and 50 cents the next. Travelers were often fooled and a 50-cent night became $1.50 fare night without notice. Those who had made their plans complained bitterly, but paid the price. When *Wave* came to the route, with some show of sticking, fares fell to two shillings and to no price at all, but this was not as ruinous as appears, for once a passenger was on board prices for staterooms and meals were loaded to carry some of the loss on fares.

Commodore J. W. Hancox was one of the competitors whom Drew fought hardest. He grew hard under Drew's punishment and though he whined at first, the practices of the day made him bitter and a dangerous fighter. Hancox never had sufficient capital to play the game on the grand and for the most part fought with poor tools, old clucks of steamboats that had outlived their favor. He first competed with *Napoleon,* from the Delaware River, running against the smarter *De Witt Clinton.*

As *Napoleon* started up river *De Witt Clinton* crowded *Napoleon* and the two boats approached the New Jersey shore, without opportunity for *Napoleon* to turn up stream. Commodore Hancox picked up a rifle and shot through *De Witt Clinton's* pilot house, narrowly missing the wheelsman, when *De Witt Clinton* gave way. On another occasion *De Witt Clinton* rammed *Napoleon,* scaring passengers. Commodore Hancox told his story in large display advertisements.

"TO THE PUBLIC

"It is the first time in my life that I have been forced to appeal directly to the public; but after being persecuted as I have been for the last three days by one of the greatest monopolies of this country, my duty towards my family, as I owe them a support, makes it necessary that I should inform the public of my situation.

"When I purchased the steamboat *Napoleon* last winter, and associated with myself E. C. Corwin and James Cochrane, who became equal partners with me in the boat, and the Articles of Co-Partnership were

drawn in such a manner that the boat was to run to Albany and nowhere else. Recently the monopoly, after ascertaining that I was determined not to remove from this route, has made extravagant offers, made in such a way that I was to be left alone; and consequently, as my means are small, I must, without doubt, be ruined and my family beggared, I now simply appeal to my friends to assist me in supporting *Napoleon;* for so long as she does not lose, no money that can be provided will prevent me from running.

"But if she does, an injunction will be immediately served on the boat. I can also state that E. C. Corwin has spurned their offers, even at a sacrifice of $6,000.

"J. W. HANCOX."

Hancox again resorted to the public prints with more complaints. His second notice said:

"MONOPOLIES AND PERSECUTION

"Are the people aware of the disgraceful manner in which the Hudson river monopoly persecutes the steamboat *Napoleon* and her owners, especially by hiring the most abandoned and profligate wretches to run against her for passengers and making use of the most disgraceful language to prevent passengers from going on board of her:

"They are guilty of the foulest lies and assertions. We had been, we thought, on the free waters of the United States, but if this is the manner in which the people are to be driven from their lawful and honorable pursuits, away then with our boasted freedom!

"Are the people aware of the manner in which we have been driven from pillar to post for the last few days? When they found out they could not terrorize the owners of this boat, they said, 'Let's crush them.

> They are poor and cannot stand against such monopolies as we are but a few days longer.' Will the people suffer this, or will they patronize the *Napoleon* and keep the fare at One Dollar, and thus sustain the poor in fair rates and honorable pursuits?
>
> *"Napoleon."*

Uncle Daniel Drew promoted the People's Line, proposing it to Isaac Newton, who became president, and Drew treasurer. *Emerald* and *Westchester* composed the line. *Emerald* was running in 1838 under command of Captain Jacob H. Tremper, between New York and Poughkeepsie, carrying passengers and towing barges. Captain Tremper's first steamboat was *Fanny,* from Norwich, Ct., *Emerald* was built by Smith & Dimon in 1825 for the New York and New Brunswick Line and later became a Hudson towboat, being dismantled at Rondout in the '60's.

Isaac Newton, hailing from Rensselaer county, was a famous operator on the Hudson River. Devine Burtis, Brooklyn, built *Balloon* for him in 1839, to run from New York to Newburgh. *Balloon* was fast, having extra large paddle wheels, 204 tons, 160 feet length, 18 feet beam and 7.6 feet depth of hold. At a later period *Balloon* ran on Long Island Sound and finished on the upper Delaware River.

The old *North America* was cut down by ice and sunk, and a new steamboat of the same name succeeded. The new *North America,* Captain R. H. Furey, with *South America,* which followed in 1840, set style for finer steamboats. They excelled in speed and other qualities and were designed by Isaac Newton, the hulls built by Devine Burtis, South Brooklyn, and the engines by James Cunningham. *South America,* Captain Thomas N. Hulse, was the first steamboat to make Albany from New York in less than eight hours.

South America measured 638 tons, 260 feet length, 26 feet beam and 9.6 feet depth of hold. The engine had cylinder 54 inches diameter by 11 feet stroke. *South America* ran until 1863, when the hull was made into a hay barge, and the engine was then installed in *Berkshire.* Isaac Newton successfully burned coal in *North America* and *South America* and is credited with substituting coal in a practical manner, though coal had been tried previously.

The rivalry between Albany and Troy was so great that townspeople of either city would not patronize the boats which went directly to the other city from New York. The success of *North America* and *South America* led the Troy Line to order two mag-

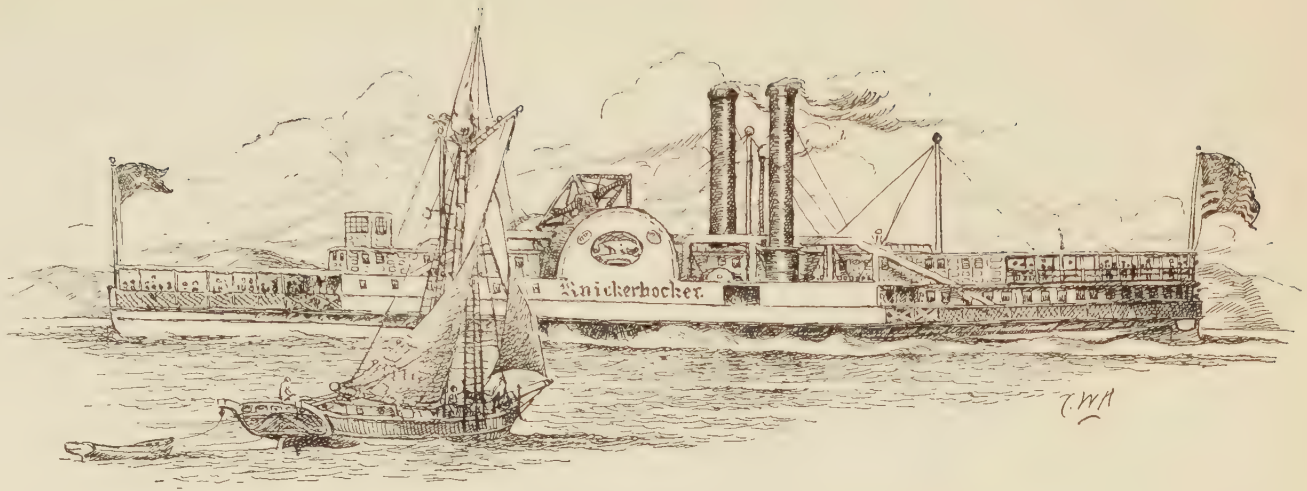
nificent steamers. *Troy,* Captain A. Gorham, which began to run to Troy in 1841, was the largest steamboat on the river and the pride of Troy citizens. *Troy* was built by John Englis, Brooklyn, and measured 724 tons, 294 feet length, 39 feet beam, 61 feet over guards, 10 feet depth of hold and had two engines from *Erie,* designed by William Lighthall and built by T. F. Secor. The cylinders were 44 inches diameter by 10 feet stroke. The engines were placed horizontally, the cylinders lying against the bottom of the boat, the walking beams being turned on end. *Troy* was built for the day route and cost $100,000, being converted to a night liner some years later, and continuing twenty years before being broken up at Keyport, New Jersey.

The second steamboat for the Troy Line was *Empire,* Captain R. B. Macey, built in 1843. The owners feared that travelers would mistake the boat for an Albany liner and the paddle boxes were lettered *"Empire of Troy." Empire* was then the largest vessel in the world, 936 tons, 307 feet length, 30 feet beam and 9 feet depth of hold. W. A. Lighthall built the two inclined beam engines, with cylinders 48 inches diameter by 12 feet stroke. *Empire* was in collision with the schooner *Mary Brown* in Newburgh Bay, May 18, 1849, when twenty-four lives were lost.

Telegraph, Captain J. S. Odell, and *Kosciusko* were fast boats which frequently raced, running to Sing Sing previous to 1842. It mattered not if passengers were waiting at announced landings, for the steamboats rushed by leaving hapless people on the dock, so great was the rivalry between the captains. *Telegraph,* 243 tons, was built by Lawrence & Sneden and later ran to New Haven, coming back to the Hudson as a towboat out of Rondout, then owned by Captain Farnham. When making the West Camp crossover, just below Catskill, in the late '60's, *Telegraph* was run down and cut through by *Drew* of the People's Line.

Knickerbocker, built in 1843 by John Englis, Brooklyn, was 220 feet length, 38 feet beam and 13 feet depth of hold. *Knickerbocker* inherited its engine from *De Witt Clinton,* and ran from the foot of Robinson Street (now Park Place) to Albany, and later in place of *Manhattan* out of Rondout, until *Thomas Cornell,* then building, was completed. *Knickerbocker* continued until 1862, going South in Civil War service.

Niagara, commanded by Captain Fountain and later by Captain H. S. Kellogg, was built for Troy service in 1848 by George Collyer, New York. *Niagara* was 688 tons, 265 feet length, 28.6 feet beam and 9.3 feet depth of hold. The engine, built by Hogg & Delamater,



Knickerbocker, which helped to create Daniel Drew's fortune

New York, had cylinder 60 inches diameter by 11 feet stroke. After many years as a passenger liner *Niagara* continued as a towboat, being broken up in 1898 after fifty years on the Hudson.

Iron Witch, a freak of the '40's, was designed by John Ericsson, fitted with special type engine with small side wheels, coming out in 1846. The first trip to Albany occupied 9 hours and 23 minutes. *Iron Witch* was withdrawn in September. The side wheels were removed and side screw wheels geared to the shaft, but the vessel was then even slower, and regular radial wheels were substituted and *Iron Witch* became *Erie,* running to Piermont in connection with the railroad. The engines were removed in 1861 and placed in *Pavonia,* the first ferry built for the Erie connecting New York and Jersey City.

Rip Van Winkle, Captain Steven J. Roe, was built in 1845 for Albany day service by George Collyer, New York. W. A. Lighthall built the engine with cylinder 50 inches diameter by 10 feet stroke. *Rip Van Winkle* was 544 tons, 242 feet length, 25 feet beam, 8.9 feet depth of hold, and became a night boat in 1846, going to the Delaware River to run between Philadelphia and Cape May and returned to the Albany run in 1847. *Rip Van Winkle* was a tramp on several routes and came to end by running against the railroad bridge at Albany, on a down trip from Troy, April 16, 1872.

The People's Line brought out *Hendrick Hudson,* Captain R. G. Cruttenden, in 1845, designed by Isaac Newton and built by John Englis, Brooklyn. *Hendrick Hudson* measured 1,179 tons, the first steamboat on the river to exceed 1,000 tons, and was 300 feet length, 40 feet beam, 55 feet over guards and 10 feet depth of hold. The Allaire Works built the engine with cylinder 72 inches diameter by 11 feet stroke. *Manhattan* ran to Albany in 1845 with *Hendrick Hudson.* Later Major Cornell operated *Manhattan* out of Rondout, and in the Civil War *Manhattan* went South, afterwards to the Delaware River.

"Live Oak George" Law owned *Oregon,* 1,050 tons, a fast boat built in 1845 for Albany service. *Oregon* hooked up with *Traveler,* pride of Commodore Vanderbilt's fleet, in a match race run in June, 1846. The two steamboats ran a dead heat, covering a 20-mile course in 57 minutes. A second match race for $1,000 was arranged between *Oregon* and *Cornelius Vanderbilt,* which took place on the Hudson, June 1, 1847, both steamboats getting away from the Battery at 11 o'clock.

There was no perceptible difference in the speed of the rival racers. But for an unfortunate move Vanderbilt, who had charge of his

steamer, and kept his boat under full speed when rounding the turning stake and thus lost several hundred yards, might have won the race. *Oregon* slowed down and maneuvered easily in turning the mark. On the down-river run *Oregon's* coal gave out and berths, chairs, benches, furniture and stateroom partitions went under the boilers. *Oregon* finished 1,200 feet ahead in 3 hours and 20 minutes, distance 66 miles, an average of 20 miles an hour. Daniel Drew bought *Oregon* for the People's Line and later *Oregon* ran to Hudson with *Hudson* and continued a river favorite, being sunk in New York harbor, October 22, 1863, in collision with *City of Boston.*

Thomas Powell, built to take *Highlander's* place, and owned by Thomas Powell and his son-in-law, Homer Ramsdell, was the fast steamboat on the Hudson, making Cauldwell's, June 18, 1846, in 2 hours flat, distance 43 miles, and Newburgh, 60 miles, in 2 hours and 40 minutes. A portrait bust of Thomas Powell adorned the pilot house roof. For many years *Thomas Powell* ran between New York and Newburgh, and later in connection with the Erie railroad trains from Piermont to New York. *Thomas Powell* ran to Poughkeepsie in 1851 and that year went to Philadelphia-Cape May route, returning to the Hudson to run to Poughkeepsie and Rondout, until relieved by *Mary Powell* in 1862. Next *Thomas Powell* ran to Catskill and in 1872 to Troy as a night boat when the Citizens' Line was organized, being finally broken up at Port Ewen in 1881 after thirty-five years of splendid service.

Isaac Newton, Captain W. H. Peck, was named for Isaac Newton, a strong Baptist and a pillar of the old Oliver Street church, New York. William Brown built *Isaac Newton* in 1846, larger than any previous river steamer, 1,332 tons, 338 feet length, 40 feet beam, 10.6 feet depth of hold and about 5 feet draught, with engine by the Allaire Works having cylinder 81½ inches diameter by 12 feet stroke. Steam was generated in two iron boilers, 38 feet length, 12.6 feet wide and 10.6 feet high with 4,540 square feet of heating surface and 161 square feet of grate. *Isaac Newton* consumed four tons of anthracite coal per hour, then considered a prodigal amount. The wheels were 39 feet diameter with double buckets.

Isaac Newton had been planned for a day liner for Captain Curtis Peck and was purchased by the People's Line before completion. *Isaac Newton* had but two decks for the first nine years, being rebuilt in 1855 by John Englis to be 405 feet length, 48 feet beam and 1,540 tons. Over guards *Isaac Newton* was 78 feet beam and had enormous capacity, being unapproached for splendor of furnishings and size. The starboard boiler exploded December 5, 1863, when oppo-

site Fort Lee and the liner burned to the water's edge, seventeen persons being scalded, and nine died.

New World, Captain A. P. St. John, 1,418 tons, came out as a day boat in 1848, built by William H. Brown, New York, 371 feet length, 36 feet beam, 69 feet over guards, 6.6 feet draught. The engine was built by T. F. Secor & Co., with cylinder 76 inches diameter by 15 feet stroke, making 17 revolutions and 20 miles speed. Boilers were 40.6 feet length, 11 feet diameter, with 5,328 square feet of heating surface and 212 square feet of grate. Wheels were 46 feet diameter, with 38 buckets, 12 feet width and 40 inches dip.

New World was rebuilt as a night liner by John Englis in 1855 and assumed monster proportions and enormous earning power, being 385 feet length, 47 feet beam and registered 1,675 tons. *New World* was the first inland steamer to have a double tier of staterooms above the main deck, and ran with *Isaac Newton.* The two were then the finest steamboats in service on inland waters, being lighted by gas and having rich cabin furnishings. *New World's* decorations included many Corinthian columns and *Isaac Newton's* trim was Gothic.

Seven steamboats left daily for New York and for Albany and the two big night boats had enormous capacity, yet all did business and earned important profits. *New World* set a mark of 1,000 passengers for a single trip, August, 1857. Even when the railroads came and forced fares down to $1 the large boats continued money makers. *New World* met with an unfortunate accident, October 25, 1849. When opposite Fort Washington a schooner crossed the steamer's bow, and in answer to the reverse bell the engineer stopped the engine too suddenly. As a result of the strain put upon the gallows frame, the walking beam dropped, the connecting rod snapped and pushed its way through the bottom of the boat. *New World* sank in thirty minutes. Passengers were taken off by a sloop and the steamer *Ohio.*

New World was raised and rebuilt for the night run. *New World* sank again off Stuyvesant shore, July 4, 1861, on its way to Albany, in daylight and no lives were lost. When the engine had been removed for installation in *St. John, New World* was taken to Fortress Monroe and used as a hospital ship in the Civil War.

The Merchants' Line opposed *New World* and *Isaac Newton* with *Hero,* Captain Anning Smith, and *Knickerbocker,* Captain Hunt. *Hero* was originally *New Jersey,* running to Troy with *Buffalo* in 1855 on the Connecticut Line. In this competition Albany fares dropped to 6 cents. *Roger Williams,* Captain A. De Groot, a Providence boat, ran several years to Troy and *Columbus,* Captain J. S.

New World, the largest steamboat of its day, arriving in Albany

Odell, was of the same period. *Sandusky,* Captain L. W. Brainard, a passage and towboat, ran to Troy.

Armenia and *Alida* came out in 1847. Thomas Collyer, New York, built *Armenia,* 185 feet length, 28 feet beam, 8 feet depth of hold and 3.9 feet draught, afterwards lengthened to 212 feet and 528 tons. Henry R. Dunham & Company built the engine, with cylinder 40 inches diameter by 14 feet stroke. This very long stroke occasioned a high gallows frame for the walking beam and made *Armenia* easily recognized. Boilers were below deck, having 1,402 square feet of heating surface and 57 square feet of grate and consumed 2,500 lbs. of coal per hour. The wheels were 29.4 feet diameter, with buckets 8.3 feet wide having 28 inches dip.

Armenia, Captain J. P. Smith, had been built to run to Peekskill, but being fast was taken for Albany day service, and established a new record to Albany, 146 miles, 7 hours and 42 minutes. *Armenia* ran to Keyport in 1853, but for the most part on the Hudson.

Alida, Captain G. P. Tupper, was built by George B. Collyer, New York, in 1847, being 640 tons, 265 feet length, 28.6 feet beam and 9 feet depth of hold. When a new bow was added the length was 276 feet. Henry R. Dunham & Company built the engine with cylinder 56 inches diameter by 12 feet stroke, turning 25 revolutions. Boilers were located on the guards, 32.6 feet by 8.6 feet, with 2,786 square feet of heating surface and 100 square feet of grate, consuming three tons of anthracite coal per hour. The wheels were 32 feet diameter with 30 buckets, 9.6 feet wide and 35 inches dip.

Alida was fast. Leaving New York one morning at 7 A.M., *Alida* caught *Hendrick Hudson,* also starting for Albany. A trial of speed got under way, and carrying flood tide, conditions were fortunate for fast time. *Alida* made one stop and reached Albany at 2:55, just under 8 hours. *Hendrick Hudson* followed 15 minutes later. Both steamers hung close to 20 miles average speed. *Alida* became a towboat and went out of service in 1875, being broken up at Port Ewen.

Armenia steamed up and down the river playing popular airs through high pitched pipes of a powerful steam calliope and echoes answered from the rocky high hills. Folks ashore dropped their work and rushed for a view. *Armenia's* calliope came from *Glen Cove,* but consumed steam so fast that the organ had to be scrapped.

Passengers had choice of twenty steamboats to Albany in the summer of 1849. The day liners left at 7 in the morning, *Hendrick Hudson, New World* and *Alida* of the People's Line and *Buffalo, Rip Van Winkle, Rochester, Manhattan, Eureka, Confidence* and *Cataline* of the opposition. In night service were *Oregon* and *Isaac*

Diamond of the Troy Line
(Uncompleted picture by John Wolcott Adams)

Newton, through boats, *South America* and *Rochester,* which stopped at way landings, of the People's Line, and *Troy, Empire* and *Columbia,* which ran to Troy. The Troy boats quit landing at Albany in 1849.

Columbia, Captain W. W. Tupper, an Albany night boat carrying mails, was built in 1849, long remembered as a side-wheel towboat which burned at Watervliet in 1876. Freight movement absorbed old steamboats for towing when they lost favor with passengers. *Oswego,* built in 1848, was the first to be built for towing. Capes & Burtis, Brooklyn, built *Oswego,* 212 feet length, 28 feet beam, and Henry R. Dunham & Company's Archimedes Works built the engine, having cylinder 52 inches diameter by 11 feet stroke. *Oswego* had many owners, but was long in the Cornell Line, being broken up at Kingston in 1920.

Joseph Belknap, named for the engine builder, and *Baltic,* built at Greenport, ran with *Armenia* between Poughkeepsie and Albany in 1850, in the service of the new railroad, for in that year the Hudson River Railroad had only reached northward as far as Poughkeepsie. It was extended to Albany in 1852.

Reindeer was built by Thomas Collyer for the Keyport-New York run, 1851, and being fast was taken for a day liner to Albany, commanded by Captain A. De Groot, and later by Captain Farnham. *Reindeer* bore Jenny Lind in triumph to Albany, when making her successful tour. *Reindeer's* boiler exploded at Bristol, forty miles below Albany, September 4, 1852. Six persons were killed and twenty-five others died of injuries. *Reindeer's* engine went in the coasting steamer *Perseverance.* While racing with *Henry Clay* July 1, 1851, *Reindeer* ran from Albany to New York in 7 hours and 44 minutes, making six landings.

Henry Clay, Captain Tallman, an opposition boat out of Albany, met with one of the most tragic disasters in the history of the Hudson, July 28, 1852, while racing with *Armenia.* The two steamboats were close together through the day, *Henry Clay* being ahead when the lower river was reached. Fire was discovered and *Henry Clay* headed for the Riverdale shore and ran hard aground, but most passengers were in the stern, which was in deep water, and imprisoned by flames. Panic ensued and terror-stricken men and women fought for life preservers and struggled with each other. Sixty lives were lost, including many well-known New Yorkers. The accident made great public stir, and inspired legislation from which the present steamboat inspection service was organized in 1852.

Business methods to attract passengers were often unethical.

Towns were placarded with gaudy challenging bills and runners for rival lines made the water front active. Rival runners raced to secure passengers' baggage, hurrying it aboard, and the runner's compensation was measured by the number of shanghaied passengers. Sometimes passengers went by one line and their carpet bags by another. Husbands were separated from wives. Nervous old ladies, timid of boiler explosions, were glibly told that the runner's boat "had no boilers." The cries of solicitous steamboat runners made the water front a babel of weird noises.

Cornelius Vanderbilt competed for river travel forty years. The Commodore owned more than fifty steamboats operated on many routes. Later, when he had been attracted to the gold rush opportunity in 1849, and to the ocean field, the river business was brought into better order and cut-throat competition eliminated, but Vanderbilt became head of the Hudson River Railroad and fought his old steamboat enemies with a new weapon.

Francis Skiddy, which came out in 1852, floated on the water with a grace said never to have been equaled before or since. George B. Collyer, of the famous steamboat building family of Collyers, designed *Francis Skiddy.* One vertical beam engine with cylinder 70 inches diameter by 14 feet stroke turned radial wheels 40 feet diameter. Steam was supplied by four iron boilers, two set ahead and two abaft the paddle wheels, each 24 feet by 9 feet, carrying 70 lbs. pressure, and each consumed a ton of anthracite coal per hour.

On June 30, 1852, *Francis Skiddy* ran from New York to Hudson, 116⅜ miles, making five landings, in 5 hours and 23 minutes, elapsed time 5 hours and 3 minutes, or at rate of 23.04 miles per hour. *Francis Skiddy* regularly made Albany in 7½ hours and for a time in 1853 left New York regularly every morning, and from Albany every evening, a round trip every 24 hours. In 1855 *Francis Skiddy* was rebuilt as a night boat, running to Troy. *Francis Skiddy,* under commmand of Captain W. H. Christopher, was wrecked by stranding on Van Wie's Point, four miles below Albany, November 15, 1864. Passengers were taken off by *Hendrick Hudson.*

Francis Skiddy was 1,480 tons, 322 feet length, 38 feet beam, 10.6 feet depth of hold and 5.6 feet draught. The engine was built by James Cunningham & Company's Phœnix Foundry and was recovered from the wreck of the *Francis Skiddy* and installed in *Dean Richmond,* continuing in that hull until 1909.

The People's Line in 1852 ran *Hendrick Hudson* and *Isaac Newton,* through night boats, *Rip Van Winkle, Oregon* and *New World,* night boats making way landings, and the Troy Line operated *Troy*

and *Empire,* night boats. Regular and opposition day boats included *Francis Skiddy, Alida, Henry Clay, Armenia, Manhattan* and *Reindeer. Empire* was lost in 1853 and *Troy* retired in 1854. A new Troy line was established in 1855 by the New Jersey Navigation Company (Stonington, Conn., Line) controlled by the New Jersey Steamboat Company. Both companies were Daniel Drew enterprises. *Commodore,* Captain Levi Smith, running with *Rip Van Winkle,* Captain C. W. Farnham, served Troy and in 1856 Captain Farnham succeeded to command of *Commodore* and *Francis Skiddy* then ran to Troy, but the former speed was gone. A second hull had been built outside the original, to decrease the draught, *Francis Skiddy* then drawing two feet less. The greatest width between the two hulls, amidship, was six feet.

Jenny Lind was named for the singer who electrified audiences under P. T. Barnum's management, about 130 feet length, and ran from New York to Sing Sing in 1853, afterwards out of New London, and the engine was later installed in the ferryboat *Uncas,* connecting Elizabethport and Staten Island.

The People's Line obtained a New Jersey charter in 1854 as the New Jersey Steamboat Company, with $500,000 capital, later increased to $2,000,000. Isaac Newton was the first president and Daniel Drew treasurer and Captain A. P. St. John one of the incorporators. When Newton died in 1859 Drew succeeded as president, until 1878. The People's Line discontinued intermediate stops and its day service in 1854, and then worked in close affiliation with the New York Central Railroad. The line got rid of its smaller boats, retaining only *New World, Isaac Newton* and *Hendrick Hudson.*

Commodore Alfred Van Santvoord purchased *Alida* in November, 1855, and began the present Hudson River Day Line in 1856, running *Armenia* with *Alida.* Commodore Van Santvoord had previously engaged in river towing. *Glen Cove* came to the Hudson that summer, built two years before by Thomas Collyer, and having *Henry Clay's* engine. *Glen Cove* ran opposition and was fast and for three months competition made fares low. *Glen Cove* was fitted with a steam calliope, invented in 1855 by the American Steam Music Company of Worcester, Mass. The calliope proved a great drawing card. *Glen Cove* was sold in 1857 to run on the James River, continuing until sunk by the Confederates when they evacuated Richmond. *Armenia* and *Metamora* were the leading boats of the Hudson from 1857 to 1860.

Daniel Drew, a new day steamer, came on in 1860, remembered

for twenty-five years' service and for the great number of Currier & Ives colored lithographs picturing the burning of the steamer at Kingston Point, August 29, 1885. Thomas Collyer built *Daniel Drew,* 251.8 feet length, 30.6 feet beam and 9.3 feet depth of hold. The engine had cylinder originally 60 inches and later 68 inches diameter by 10 feet stroke, from the tug *Titian,* built by the Neptune Iron Works, New York. The hull was widened 5 feet in 1862.

When *Daniel Drew* appeared Commodore Van Santvoord ran *Alida* between New York and Poughkeepsie, making a round trip daily. There had been many speed brushes between the two and vicious announcements were published in newspapers, which blossomed challenges, as:

"STEAMER *ALIDA*

"The splendid day boat *Alida* is now the only boat for passengers to depend upon. She makes all landings and arrives at Albany and Troy two hours ahead of the old boat, the *Drew,* now 12 years old, and her machinery so worn as to be nearly broken down. On Wednesday her passengers did not arrive in Albany until 10 o'clock at night, too late for the cars, and this morning she was seen with but one engine at work. Those traveling should patronize the only opposition on the river, and more especially as she is far the fastest boat. Fare 50 cents."

The owners smarted under this sting and when the season closed issued this challenge:

"The steamboat *Daniel Drew* having discontinued her trips on the day route for the season will for the purpose of gratifying the curiosity of certain individuals hold herself in readiness until the 27th of the present month to make a trial trip from New York to Albany with any other steamboat now built, for $1,000 or upwards, on one week's notice from this date, the boats to start from the foot of 30th street, North River, at 8 A.M., to run with their usual tackle as used in their ordinary business. Any person or

> persons having a steamer that they think can beat her may have opportunity to make a profitable trip by calling on the subscriber."

Neither *Alida* or any other steamboat took up the challenge.

Commodore Van Santvoord, with Captain David Hitchcock, built *City of Albany,* 1862-3, which proved too slow for the run and was sold to the Navy for $82,000, coming back to the Hudson after the war, running to Nyack and later to Norwalk, Conn., as *Adelphi.* Commodore Van Santvoord bought *Daniel Drew* from James F. Collyer, September, 1863, and *Armenia* from Isaac P. Smith in October and in 1864 added *Chauncey Vibbard,* one of the famous steamboats of the river.

Captain Jacob H. Tremper of Rondout, who began steamboating in the little side-wheeler *Fanny,* running between New York and Marlborough, followed by *Emerald* from Philadelphia, running to Poughkeepsie, built *James W. Baldwin* in 1860 and until he died in 1888 was commander, succeeded by his son. *James W. Baldwin* was built by M. S. Allison, Jersey City, six months before *Mary Powell,* and ran more than fifty years with that boat, upon the same route, being latterly known as *Central Hudson. James W. Baldwin* was 242 feet length (later increased 10 feet), 34 feet beam and 9 feet depth of hold. Fletcher Harrison & Company built the engine, having cylinder 60 inches diameter by 11 feet stroke. When new, *James W. Baldwin* was the fastest steamboat with staterooms, originally having 50, and later an extra tier making 111 staterooms and capacity for 350 persons. *James W. Baldwin* was sunk at West Point, raised and broken up at Perth Amboy, graveyard of ships. A life-size figure of a man in white trousers and blue coat, peering through a spy glass, stood just ahead of the mainmast, seeming to survey the river.

Washington, from Providence River, came to the Hudson in the '50's to run out of Catskill. *Washington* had two engines, one being afterwards installed in the towboat *Storm,* which ran on the Hudson, owned by the Knickerbocker Ice Company. *Storm* went down off Saybrook in Long Island Sound. *Santa Claus* was a Troy passenger steamer, but was longer known as *A. B. Valentine,* a towboat.

J. Flanagan & Company operated *Swan,* Captain W. P. Cropper, between New York and Newburgh in 1857, but the line was short lived. *Caledonia,* Captain Robert Wardrop, made two weekly trips and *South America* towed freight barges. Newburgh was busy in

1858 when *Thomas Powell* left for New York, *Armenia* or *Metamora* for Albany and New York and *Constitution* ran Tuesdays and Saturdays for Albany, while *R. L. Stevens* and *South America* landed at Long Dock on their way to New York. *Broadway* ran to Newburgh from New York on Sundays, and in 1859 *Eagle,* Captain H. Fairbanks, began to run to Albany, succeeding *Mazeppa,* Captain John Stratton.

Oregon, Captain C. F. King, and *South America,* Captain M. Sherman, ran between New York and Hudson in 1859, stopping at Catskill, West Camp, Malden, Red Hook, Barrytown, Rhinebeck, Poughkeepsie, Milton and Newburgh, Cauldwell's and Cozzens. They ran in connection with *Peter G. Coffin* of the Hudson and Albany line. *Rip Van Winkle,* Captain Fraley, ran between Coxsackie and New York, landing at Hudson.

Isaac Smith, D. S. Miller, Captain Charles Ru Ton, and *John L. Hasbrouck,* propellers, were built in the early '60's for the Poughkeepsie Line. *Isaac Smith* went to the Navy in the Civil War and was captured by the Confederates. *John L. Hasbrouck* and *Daniel Miller* had walking beam engines arranged athwartship and driving propeller shafts through gears. They were smart boats, about 125 feet length. *Daniel Miller* became *Poughkeepsie* and *John L. Hasbrouck* was renamed *Marlboro,* continuing until broken up in 1917. *Eagle,* 422 tons, built 1852 at Brooklyn, ran on the day line route, Newburgh to Albany, with *Milton M. Martin.* When the Civil War was breaking *Milton Martin* was taken to be General Grant's dispatch boat, being smart and well furnished. After the war *Milton Martin* returned to run between Catskill and Albany, continuing sixty years, and was only broken up in 1922. *G. T. Olyphant* was an early steamboat running to the Middle Hudson.

City of Hudson, originally *Escort,* when it came to the Hudson in the late '70's, was rebuilt in 1883, becoming *Catskill,* and collided with *St. John* September 15, 1897. When raised and rebuilt *Catskill* was named *City of Hudson,* running many years with *Walter Brett. Ida* and *Ulster* long ran on the Saugerties route, *Ulster* having been originally *Ansonia,* built in 1848, and known (1923) as *Robert A. Snyder. Ida,* from Baltimore succeeded *Shenandoah,* afterwards *Saugerties,* and burned in 1905.

THE FAMOUS *Mary Powell*

Just as Cleopatra continued her charm for three generations of admiring men, *Mary Powell* lived sixty years in the affections of

many friends, receiving marked respect and holding favor years after most steamboats have been converted to other uses, scrapped or sunk, a notable example of steamboat longevity and appreciation.

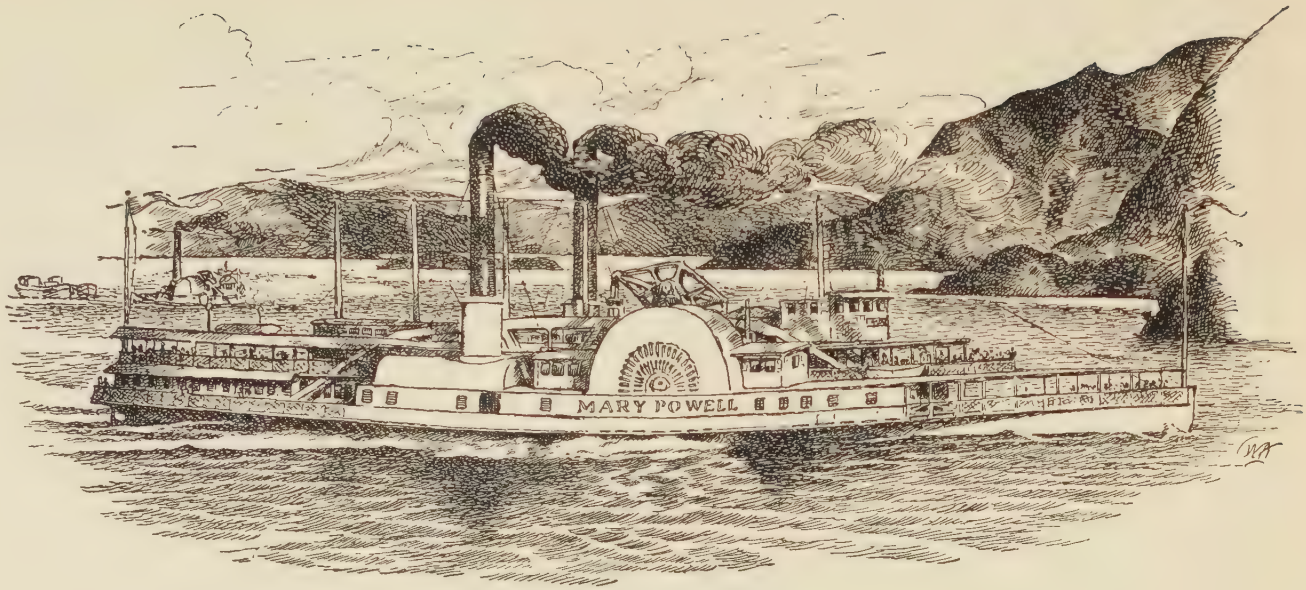
Mary Powell was built for Captain Absalom Anderson of Kingston in 1860 and named for Mary Powell, of a family identified with Hudson River sailing sloops and steamboats for 100 years. A portrait bust of Mary Powell adorned the pilot house. Michael S. Allison of Jersey City was the builder and the design Captain Anderson's own, 260 feet length, 34.6 feet beam and 10.3 feet depth of hold. When first introduced the engine, by Fletcher Harrison & Company, had cylinder 62 inches diameter by 12 feet stroke. Boilers were return flue type with water bottom, located on guards, shell 9.6 feet diameter, 11 feet front and 33 feet length. The radial wheels were 31 feet diameter, with 26 buckets, 10.6 feet length and 42 inches dip. *Mary Powell* was lengthened in 1874 to 286 feet length of keel and 300 feet over all. *Mary Powell* succeeded *Thomas Powell* on the Rondout day route established by Captain Anderson in 1856.

Major Thomas Cornell of Rondout tempted Captain Anderson with an offer to buy *Mary Powell* during the winter of 1865-66. The Major's interest was genuine, but much of his experience was with another kind of steamboating and Commodore Van Santvoord purchased *Mary Powell* in 1869 from Major Cornell in exchange for the towboats *Baltic, New York* and *Oswego* and a one-day towing route from Rondout to Albany. *Mary Powell* was first operated by the Hudson River Day Line for a period of three years.

Next, the Mary Powell Steamboat Company, of which John Brinkerhoff had controlling interest, succeeded to ownership, and Captain Billy Cornell of Eddyville was commander. *Mary Powell* reverted to Captain Anderson in 1872 and was rebuilt in 1874 and the engine cylinder increased from 62 to 72 inches diameter. The new measurement was 983 tons.

Much discussion has centered upon *Mary Powell's* speed. One of the best runs was made in August, 1867, then commanded by Captain Fernand Frost, with Andrew Barrett chief engineer. Leaving New York at 3:32, *Mary Powell's* whistle blew outside Rondout Creek at 7:48 P.M., having made five stops, landed 800 passengers and taken on travelers. Poughkeepsie was made from New York, August 7, 1874, in 3 hours 39½ minutes, actual running time 3 hours and 19 minutes. *Mary Powell,* in 1881, made Rondout from New York in 4 hours and 12 minutes, distance 92 miles.

George W. Murdock, who spent much of his life aboard Hudson



Mary Powell, as she originally appeared

River steamboats, was a member of *Mary Powell's* engine room staff in 1877, '78 and '79. He tells of three remarkable performances:

> "We came out of Vestry street and from the time we got the jingle and dropped the hooks, until we were abreast of Piermont, was just 59 minutes. This was the fastest time I ever knew her to make, though to show how consistently she performed there were two other trips made in 60 minutes and in 61 minutes. The distance is exactly 25 miles."

"Dropping the hooks" is engine-room parlance for that instant when the hand valving of the engine is discontinued and the hooks engaging the eccentrics begin the mechanical valving.

A race between *Mary Powell* and the Herreshoff high-speed steam yacht *Stiletto* was staged June 10, 1885, when *Stiletto* came down from Bristol, R. I., with Charles F. Herreshoff, father, and his sons, James B., John Brown, Nathaniel and Francis, aboard, with Gray fireman. *Stiletto* was 94 feet length, 11 feet beam and 7.9 feet depth of hold, powered with inverted compound condensing type engine with cylinders 12.6 and 21 inches diameters, of annular type, allowing large valve openings, and the boiler was sectional water tube type 7 feet by 7 feet carrying 160 lbs. of steam. *Stiletto* turned a four-blade wheel, 4 feet diameter, 400 revolutions per minute, and the fuel was egg coal.

The New York *Morning Journal* reported the start, opposite Hay's Soap Works:

> "Jing-aling-ling, sounded *Stiletto's* bell, and with almost a bound she leaped forward. But *Mary Powell* was going very fast and crept up and up on *Stiletto*. It was a moment of intense excitement. Like the *Prairie Belle* 'on the Missip' the *Powell* had never been passed. Brave old Captain Anderson, whose pet she was for years, was not on board or his heart would have warmed to see this last word of science dropping back from his lovely queen. Cheers break out from the passengers on the *Powell* and handkerchiefs are waved."

When Sing Sing was reached *Stiletto* was ahead, making the run in 1 hour and 15 minutes, and 5 minutes later *Mary Powell* passed. *Stiletto* made Tarrytown in 63 minutes. *Mary Powell* continued up the river. Whether *Stiletto* could have gone a further distance at

the same clip is debatable. The Herreshoffs were satisfied and the victory brought no discredit to *Mary Powell,* then 25 years old.

Guernsey Betts was long *Mary Powell's* pilot. He could tell with certainty what she would do in every circumstance. There were landings on the river where peculiar tide eddies formed. Betts could put *Mary Powell* alongside Milton dock, while a gangway was run ashore; leave off and take on passengers, without making fast a single line. Few steamboats had the same ability to jump into full speed once the go-ahead bell sounded, her best clip in two lengths.

Mary Powell brought General Custer's body and the distinguished funeral party from Poughkeepsie to West Point for interment of the remains upon the reservation in the late '70's. The crowd taxed capacity beyond safe limits and approaching West Point landing, moved to the shore side, carrying *Mary Powell* over to a dangerous angle. The boilers, being high up on the guards, did not give stability and there was a foot of water in the fire room, port side. The funeral party was soon ashore and the lines held, averting a tragedy.

Mary Powell was once struck by a cyclone and carried out of her course broadside against the rushing wind and tumbled about in what was probably the worst storm in man's experience on the Hudson, drifting two miles. *Mary Powell* lost her stacks before Pilot Betts could get her headed straight again.

The fiction that *Mary Powell* had but two commanders in her long career is difficult to down, though the record shows many good shipmasters, Absalom Anderson, Billy Cornell, Fernand Frost, Elting Anderson, Will Van Woort and Captain Warrington, *Mary Powell's* last master.

With *Mary Powell* safely berthed in Rondout Creek for the winter Captain Anderson once embarked on a vacation, a steamboat trip up the Nile. The Scotch commander noted him standing on the upper deck and inquired if he was an American steamboat man. Captain Anderson assenting, the steamer's master said: "I only know of one American steamboat—the *Mary Powell.*" "That's my ship," said Captain Anderson with pride for *Mary Powell's* international reputation.

That *Mary Powell* should have lived so long, giving enjoyment to great numbers through many years, is explained from the care she always received. Summer seasons were short and the winter lay-up in Rondout Creek was painstaking, and she continued to be her best. It seemed as if she refused to grow old, and even when old age forced itself upon recognition, *Mary Powell* acknowledged her years gracefully just as she had done everything else.

Mary Powell was broken up at Kingston in 1923 by John A. Fisher for scrap salvage, but lives in Hudson River steamboat memories for the distinguished place she occupied through many years. Latterly there were steamboats capable of passing *Mary Powell,* boats with just enough more speed to go by her—but no steamboat ever did.

Thomas Cornell, 1,256 tons, Captain Charles Ru Ton, was built in 1863 by E. S. Whitlock, Brooklyn, 310 feet length and 34 feet beam. The engine, with cylinder 72 inches diameter by 12 feet stroke came from a Great Lakes steamboat. *Thomas Cornell* left Rondout in a haze, March 27, 1882, running on Danskammer Point, opposite New Hamburg. Passengers were rescued by *John L. Hasbrouck.* The hull was badly strained and the steamboat abandoned, being built into two Long Island Sound barges.

Berkshire was built by Morton & Edmonds at Athens in 1863 for George H. Power's New York and Hudson Line, 253 feet length, 37 feet beam and 10 feet depth of hold. The engine, built by James Cunningham & Company, came from *South America,* reconstructed by Fletcher Harrison & Company. There were two boilers forward of the engine room and two aft. *Berkshire* caught fire coming down the river, June 8, 1864, near Hyde Park, and forty persons were lost. The hull was reconstructed into the propeller *Nupha. William T. Hamer* connected New York and Newburgh in 1864. In the late '70's *Seneca* served as police boat in New York harbor until *Patrol* was built, when *Seneca* became *Silver Star* and went South to run out of Charleston.

Metamora was a noted boat of Civil War times, running from several ports to Albany. The paddle boxes were ornamented with a carved figure of an Indian chief with bow and arrow. Captain John Stratton, afterwards Captain J. F. Tallman, commanded *Metamora,* which was owned by Romer & Tremper. *Milton M. Martin,* running from Hudson to Albany, was 191 feet length, 29 feet beam, 8 feet depth of hold, with engine having cylinder 44 inches diameter by 9 feet stroke and named for Milton Martin of Hudson. *Metamora* became a towboat operated by Blanchard & Farnham. Romer & Tremper ran *Eagle* and *Constitution,* which went South in the Civil War. *George Washington,* from Chesapeake Bay, built in the '30's, *Hudson* and *Metamora* towed out of Rondout Creek for almost twenty years. After the Civil War *Milton M. Martin* ran from Newburgh to Albany taking the place of *Constitution.*

THE FAMOUS SIDE-WHEELER *St. John*

The People's Line commissioned John Englis, Brooklyn, to build a steamboat to surpass anything afloat. The expression "floating palace" took new meaning for *St. John,* Captain Frost, the largest steamboat in the world, *Great Eastern* excepted. *St. John* was named for Captain A. P. St. John, a famous Hudson River commander, and was 420 feet length, 51 feet beam, 84 feet over guards, 10.2 feet depth of hold and cost $600,000. The engine came from *New World,* built by T. F. Secor & Company, having cylinder 76 inches diameter by 15 feet stroke, and the wheels were 40 feet diameter, 30 buckets, 10.6 feet width and 32 inches dip.

Saratoga Springs, Lake George, Lake Champlain and the Adirondacks were visited by thousands in this era of watering places and *St. John* set fashion in night boats in 1863. Visitors came from abroad to admire *St. John,* which had a high dome deck and staterooms on galleries. The grand staircase of carved St. Domingo mahogany, inlaid with white holly, cost $25,000, and double inlaid stars featured the newel posts.

St. John ran on the Hudson twenty-one years, attracting a large following. On the evening of October 29, 1863, when a few miles below Albany, one of the boilers exploded and fifteen lives were lost. *St. John* was destroyed by fire, January 24, 1885, when lying in winter quarters, foot of Canal Street, New York, then valued at $475,000. Captain St. John committed suicide in the barber shop of *St. John* in 1875, then rated as a millionaire.

Chauncey Vibbard, Captain Dave Hitchcock, a famous Albany day boat, appeared in 1864, making Albany in 6 hours and 42 minutes, a new record. *Chauncey Vibbard* was built by Laurence & Foulkes, Brooklyn, 1,158 tons, 281 feet length, 25 feet beam and 9.6 feet depth of hold. Fletcher Harrison & Company built the engine, having 62 inches diameter cylinder by 12 feet stroke. *Chauncey Vibbard* cut the water as a knife blade, the water only breaking when it hit the paddles. Hull and engine were balanced to eliminate vibration, but heavier boilers installed later, lost this fine balance. *Chauncey Vibbard* ran with *Daniel Drew,* and next with *Albany,* and was succeeded by *New York* when *Daniel Drew,* held in reserve, burned at Kingston Point. For a time *Chauncey Vibbard* ran from Philadelphia to Lincoln Park and in twenty-five years' career was free of accidents and disasters. *Chauncey Vibbard* was broken up at Cramer's Hill in 1902.

The People's Line built *Dean Richmond,* Captain S. J. Roe, at

John Englis' yard in 1865, *Francis Skiddy's* engine being installed in the new boat. *Dean Richmond* measured 2,515 tons, 348 feet length, 46 feet beam and 10.6 feet depth of hold and ran on the Hudson almost forty-five years, latterly to Troy, being broken up at Commonwealth Wharf, Boston, in 1909. Captain Steven J. Roe, when he quit steamboating, became proprietor of West Point Hotel, and his friends aided him with information to acquire a large fortune.

Dean Richmond inherited the engine of *Francis Skiddy*

Nupha, propeller, was built from the burned *Berkshire* by J. R. and H. S. Baldwin at New Baltimore in 1865 for the New York-Hudson route. *Berkshire* inherited *South America's* engine, which went in its third hull in *Nupha*. The walking beam worked thwartship, and the crank throw was directly connected to the fore and aft propeller shaft. *Nupha* was 1,232 tons, 253 feet length, 37 feet beam and 10 feet depth of hold. The name was changed to *Metropolitan* and in 1877 and '78 *"Met"* was running excursions to Iona Island and West Point. Later *Metropolitan* ran with *Bolivar* in freight service from New London. *William C. Redfield,* 370 tons, built at Albany in 1865, ran to Hudson, a propeller, as was *Andrew Harder,* 339 tons, built at New Baltimore in 1864. *General Sedgwick,* built at Jersey City in 1863, ran from New York to Sing Sing, later becoming *Bay Queen.*

At the Civil War's close *Sarah E. Brown,* a little side-wheeler,

was purchased by Major Cornell for towing out of Rondout Creek. Captain Sandy Forsythe was commander. The overhang of a barge struck the paddle box and stove in the planking, taking much of the name away, and only the initials S. E. B. remained. *Sarah E. Brown* came to be known as "the fish market," for S. E. B. was held to stand for "suckers, eels and bullheads." When *Sarah E. Brown* was being rebuilt, Major Cornell was asked what name he proposed to give the boat.

"What will I call her, Sandy?" asked the Major, addressing Captain Forsythe.

"Call her *Sandy,*" replied the captain, and for many years *Sandy* was a familiar figure on the river.

Chrystenah, 571 tons, built at Nyack in 1866 for the New York-Peekskill run, continued on this route until 1920, a popular steamboat, being then sold for cross-Sound ferry service to Oyster Bay.

Daniel Drew gave his name to a new night boat for the People's Line, *Drew,* Captain S. J. Roe, built in 1867 by John Englis at Brooklyn, 2,902 tons, 390 feet length, 47.5 feet beam and 10.8 feet depth of hold. Allaire Works built the engine with cylinder 81 inches diameter by 14 feet stroke. *Drew* was 38 years old when broken up and burned at Perth Amboy, July 4, 1905, having outlived the fashion for wooden hulls, hog framing and boilers on the guards. Uncle Daniel Drew's participation in Erie financing and the gold panic were then almost forgotten.

The Albany & Susquehanna Railroad was completed to Binghamton and a connection made with the Erie in 1870. Competition for cattle business from Buffalo began immediately with the New York Central. Dressed beef was not then shipped in refrigerator cars. The Erie made a through stock car rate, $1 Buffalo to Albany, of which the Susquehanna's share was 40 cents, the Susquehanna paying the Erie $2.44 for use of the car. From Athens' terminal, below Albany, cattle were shipped to New York by the propellers *John Taylor* and *Erastus Corning,* a John H. Starin opposition night line. Steamboat Square, Albany, was black with cattle each evening, waiting to be shipped to New York.

This ruinous competition continued until 1873, when the Athens terminal burned and with it *John Taylor.* The service was abandoned and *Erastus Corning,* built in Brooklyn in 1857, went to Starin's New Haven Line, becoming *Haven.*

ORGANIZATION OF THE CITIZENS' LINE

The Citizens' Troy Line was organized in 1872 by Joseph Cornell, George W. Horton and Captain Thomas Abrams, leading stockholders, supported by local subscriptions. Troy was then served by Commodore J. W. Hancox's old Connecticut Line, steamers *Connecticut,* Captain A. Siminsky, 250 feet length, and *C. Vanderbilt,* Captain L. D. Deming. *Connecticut* holds a record of having made one or more trips in each month of a single year, and was the first steamboat sent out each season to break the ice. Both were old steamboats, of too much draught for the upper river, and the line was not popular. The newcomers brought *Thomas Powell,* Captain E. D. Beach, and *Sunnyside,* Captain H. O. Nichols, and soon had the upper hand. They had run the Hancox boats off the route by July. *Connecticut* and *C. Vanderbilt* were cut down for towboats.

Sunnyside was built in 1866 by C. & R. Poillon, Brooklyn, with engine by Cobanks, New York, having cylinder 56 inches diameter by 12 feet stroke. *Sunnyside* was purchased by Joseph Cornell and Captain Black for $45,000 and ran on the Coxsackie route 1870-71, being lengthened from 265 feet to 300 feet when rebuilt for the Troy night run.

Commodore Hancox came back to the Troy route in 1874 with *J. B. Schuyler,* a smart two-piper, which made fast under *Drew's* stern one foggy night while Matt Hancox, the Commodore's son, sauntered up to the tracks with a red lantern under his coat. Western trains then pulled down to the Albany steamboat wharf to unload passengers for the New York boat. Matt Hancox waved his lantern, bringing the train to stop and the passengers disembarked. "This way to the New York boat," he called. Passengers rushed aboard *Schuyler,* which pulled in gangways and started before passengers realized they were aboard the wrong boat, and before the People's Line knew their passengers had been stolen away. *J. B. Schuyler* did not have nearly enough staterooms and there was bitter complaint.

This kind of trickery disgusted Joe Cornell and the Citizens' Line and made the People's Line equally anxious to be rid of the Hancox competition. The two companies joined in buying out Hancox in 1875.

Sunnyside, under command of Captain Frank Teason, left Troy November 30th, 1875, early in the afternoon, five below zero and ice thick in the river, with few passengers and a crew of fifty men. When passing Barrytown it was seen that ice was cutting into the

planking and the vessel making water. Pumps kept the ship clear until open water near Esopus Island was reached, which freed the ice that had wedged itself into the openings cut in the hull. Captain Teason drove *Sunnyside* ashore, but it slid into deep water and settled fast. Only the hurricane deck was exposed and the survivors huddled about the pilot house, but so fast did *Sunnyside* settle and so terrible was the exposure that eleven lives were lost. Three survivors, Theron Moore, William Fairbrother and George W. Murdock, held a reunion in 1924.

Twilight was put on the line with *Thomas Powell* to take *Sunnyside's* place during the spring of 1876 and June 15th the Citizens' Line brought on *City of Troy,* Captain L. D. Deming, built by John Englis & Son. The new liner was 1,527 tons, 300 feet length, 36 feet beam and 10 feet depth of hold. Quintard Iron Works, New York, built the engine, which came from the steamer *Firecracker,* engaged in China river trade. *City of Troy* ran thirty-one years to April 5, 1907, when it burned, fire being discovered in the galley after leaving Yonkers. Captain Brüder and crew fought the flames, but the vessel could not be saved and was headed for the Gould dock at Ardsley, where the 100 passengers landed. *City of Troy* burned to the water's edge and set fire to the dock.

The Citizens' Line replaced *Thomas Powell* with *Saratoga,* June 15, 1877, designed by Joseph Cornell and built by John Englis & Son, being 285 feet length, 36 feet beam, 70 feet over guards, 10 feet depth of hold and 6.6 feet draught. Secor Iron Works rebuilt the engine, which came from the lost *Sunnyside. Thomas Powell* was kept as spare boat from 1878 to 1882 and was then broken up at Port Ewen. *Saratoga* ran down *Adirondack,* near Tivoli, on the evening of October 13, 1906, *Saratoga* going down and being raised and rebuilt. *Adirondack,* though damaged and its fore deck carried away, finished the season. Each steamer lost a man. *Golden Gate,* a small side-wheeler, served in 1874 as tender for the Troy boats in low water periods, burning in 1879 when *Belle Horton,* built at Athens in 1880 followed.

L. Boardman, 116 tons, built in 1846, ran in 1869 between Haverstraw and Newburgh, as predecessor of *Emeline,* ex *Nantasket,* built in 1869. *Walter Brett,* ex *Mary Benton,* 418 tons, connected New York and Catskill in 1869. *Magenta* ran on the Haverstraw line in the '70's, bursting a steam chimney March 23, 1878, when near Sing Sing, three persons being killed and seven scalded. Passengers were taken off by *Thomas P. Way* and *Alexis. William C. Redfield* and *Thomas McManus,* propellers, engaged in freight and passenger

business out of Coxsackie, while *Andrew Harder,* a propeller, ran on the Catskill line 1872-74. In the lower Hudson *P. G. Coffin,* which had run from Hudson to Albany in the late '50's, ran to Nyack, being then known as *Alexis,* afterwards becoming *Riverdale,* and exploded a boiler off West 34th Street, August 20, 1883. *Adelphi,* 642 tons, built at Albany in 1863, ran to Nyack in 1869 and later burned on Harlem River. *Emeline* ran to Haverstraw and was sunk in deep water, later raised by the underwriters.

Benjamin Franklin, a propeller 144.8 feet length, 28.8 feet beam, and 10.1 feet depth of hold, was built at Tottenville in 1894 for the Benjamin Franklin Transportation Co., a freight service connecting Yonkers and New York.

The present freighter and the company itself took its name from the packet sloop *Benjamin Franklin* which came to serve Yonkers in 1839, then under command of Captain Joseph Peene, whose sons long operated the Yonkers steamboat service.

The sloop *Benjamin Franklin* was built at Huntington, L. I., in 1836, for New Bedford and West Indies trade, taking out cattle and bringing back molasses, and was 65 feet length and 21 feet beam. The sloop was later operated by Captain John Van Keuren, to 1864 and until 1877 by Moses, Frank and Robert Collyer. Thereafter, until 1889, *Benjamin Franklin* was sailed by their father, Captain J. L. Collyer, until his death in 1889.

Raleigh, built at Portsmouth, Va., in 1872, has long served Peekskill. *Sarah A. Jenks* and *Leader* which ran to Sing Sing were propellers long known on the Hudson.

In addition to the regularly employed steamboats of the Hudson outside boats made occasional trips and Sunday excursions. *Plymouth Rock* was a favorite excursion boat in the early '70's and until 1886, when broken up. In recent years frequent visitors have been *Jesse Hoyt, Grand Republic, New Brunswick, St. John's, Thomas P. Way, Sam Sloan, John Sylvester, Bridgeport, General Slocum, Orient, Granite State, Monmouth, Sylvan Dell, Harlem, Oriental,* ex *Norwalk, Block Island, Monitor, Americus, Rosedale, Isabel, Empire State, Howard Carroll, City of Lawrence, City of Lowell* and *Richard Peck.*

Sunday steamboat excursionists were not always welcomed by natives of Hudson River towns, as reported in a New York newspaper of 1882:

"The fact that a cannon stood on the wharf at the village of Dobbs' Ferry on a recent Sunday, and a large force of special deputy-sheriffs paraded the river bank armed with clubs and revolvers, it

would seem fair to infer that the excursionists who were expected to arrive there from the city would not have been cordially welcomed. This conjecture is strengthened by the declaration of one of the village trustees that they were ready to resort to grape and canister, if necessary, to keep visitors away."

When *Dean Richmond* was being built at John Englis & Son Brooklyn yard in 1865 *Star of the East* was building in a neighboring shipway for the Kennebec River, becoming *Sagadahoc,* and many years later, as *Greenport,* ran with *Dean Richmond,* filling in when *City of Troy* was lost until *Rensselaer* came out in 1909.

Kaaterskill, of the Catskill Evening Line, built in 1882

City of Catskill, Captain Charles Ru Ton, was built by Van Loan & Magee at Athens in 1880 for the Catskill Line, 250 feet length, 35 feet beam and 10 feet depth of hold. W. & A. Fletcher Company built the engine, having cylinder 56 inches diameter by 12 feet stroke. *City of Catskill* burned at Rondout February 11, 1883. *Kaaterskill,* Captain Charles Ru Ton, was built by Van Loan & Magee in 1882, being 1,361 tons, 285 feet length, 38 feet beam and 10 feet depth of hold. W. & A. Fletcher Company built the engine with cylinder 63 inches diameter by 12 feet stroke. *Kaaterskill* ran with *Onteora* and *City of Hudson* in 1914.

Albany, the first iron steamboat of the Hudson River Day Line, was built by Harlan & Hollingsworth Company, Wilmington, in 1880, originally 305 feet length, 40 feet beam, 75 feet over guards and 11.6 feet depth of hold. W. & A. Fletcher Company built the engine with cylinder 73 inches diameter by 12 feet stroke. *Albany*

had wheels 32 feet diameter and 12 feet wide. *Albany* was rebuilt in 1893 at Harlan yard, lengthened to 327 feet and new feathering wheels installed and the former fan-shaped paddle boxes were replaced with dummy windows.

An interesting experimental craft, *Henry W. Longfellow,* was built in the summer of 1880 at Nyack, and described by a writer in *Harper's Weekly:*

> "I'll give them rapid transit," said Commodore William Voorhis to a reporter, the other day. "I'll take people down from Nyack to New York—27 miles in one hour, and run away from everything on the river that is driven by steam."
>
> To accomplish this purpose the Commodore has built a monster steam-catamaran, which is one of the strangest looking vessels afloat. The boat consists of two iron cylinders, shaped like immense cigars, sharp at both ends, and 200 feet length. These are nine feet apart, and on them rests a deck 125 feet length, like that of an ordinary ferryboat. Each cylinder has four bulk-heads and five air-tight compartments. Just aft the midship section, in the center of the boat, is an eight-flanged screw, with a dip of eight inches. The screw, instead of being submerged, as are the propellers of all swift craft, is nearly one-half out of water. The tops of the flanges project above the flooring of the main deck. The plan of the screw, also, instead of being at right angles with the plane of the water, makes an acute angle with it. Commodore Voorhis believes this will serve to raise her over the water, and thus decrease the displacement and consequent resistance. He has, he thinks, found a means of greatly increasing the speed of his boat by increasing the buoyancy, and at the same time decreasing the resistance.
>
> There are two engines of the "balance" order. The steam, instead of entering the cylinder head, passing down the piston one-third of the way, and leaving it to the expansion to drive the piston home, enters in the center of the cylinder, and forces the two pistons in opposite directions. The engines are of 500 horse power, and there will be a displacement of only 75 tons.
>
> It is expected that the screw will make 250 or 300 revolutions a minute. There is a safety boiler, nine feet in diameter, containing 750 feet of two-inch pipe, inside coil. The weight of the entire vessel, including cylinders, is 43 tons.

> This, it is said, will leave a carrying capacity of 475 passengers. It is said no vessel afloat has more than one-third of the power per ton of displacement that this vessel has. The new craft is named the *Henry W. Longfellow,* in honor of the distinguished poet.

There was much that was sound in Commodore Voorhis' pioneer design, which anticipated tunnel stern and planing craft and half submerged wheels—features which waited upon the development of power plants capable of high revolutions.

Henry W. Longfellow made a trial trip, but never ran on the Nyack route. The round form of the cylinders did not give increasing buoyancy as the twin hulls submerged in motion. *Novelty,* a previous experimental catamaran with a midship paddle wheel, was also built by Commodore Voorhis.

William Tittamer carried milk between Dutchess Junction and New York in 1882, later rebuilt and named *Melzingah* when the route was extended to Newburgh, the line being operated by James T. Brett. Daily freight and passenger service was started in 1884 with *Keyport,* which became *James T. Brett,* in opposition to the Ramsdell Line, being later absorbed by the Central Hudson Line.

City of Kingston, 1,117 tons, a propeller built in 1884 by Harlan & Hollingsworth Company for the Cornell Steamboat Company, ran to Rondout, 240 feet length, 34.6 feet beam, 15.3 feet depth of hold, was the pioneer fast passenger propeller on the Hudson, making 19 miles' speed. *City of Kingston* ran five years on the route and was sold for Puget Sound, hailing from Seattle and making occasional trips to Alaska. *Eagle,* a Captain Jacob Tremper boat running from Newburgh and Albany, burned at Milton in 1884. *Union* ran on the Hudson and did New York harbor towing.

Newburgh was built for the Newburgh route in 1886 by Næfie & Levy, Philadelphia, 1,033 tons, 200 feet length, 32 feet beam and 12.6 feet depth of hold. The Central Hudson Line also operated *Jacob H. Tremper,* a wooden side-wheeler, built at Greenport in 1885, of 1,033 tons, 180 feet length, 34 feet beam, and 8 feet depth of hold, with engine having cylinder 40 inches diameter by 10 feet stroke. *William F. Romer,* ex *Mason L. Weems,* built in 1881, came to the Central Hudson fleet in 1889 from Baltimore, running until broken up in 1920.

Homer Ramsdell, 1,181 tons, was built by Thomas S. Marvel & Company, Newburgh, in 1887 for the Homer Ramsdell Transportation Company, and when first built was 212 feet length, 32.2 feet

beam, 14 feet depth of hold, being lengthened in 1892 to 237 feet. William Wright of Newburgh built the compound engine, 28 and 52 by 36 inches, rated 1,022 horse power. *Benjamin B. Odell* was built in 1911 at Wilmington, 263 feet length, 48.6 feet beam and 16 feet depth of hold, with triple expansion engine and four boilers rated 2,600 horse power. *Poughkeepsie* was built in 1917 at Tampa, Fla., 206.5 feet length, 47 feet beam, 12 feet depth of hold and 1,566 tons registry.

The Day Line brought out *New York,* 1,552 tons, built in 1887 by Harlan & Hollingsworth Company, 311 feet length, 40 feet beam, 74 feet over guards and 12.6 feet depth of hold with 6 feet draught. W. & A. Fletcher Company built the engine with cylinder 75 inches diameter by 12 feet stroke. Wheels were feathering type, with 12 buckets, 12.6 feet length by 3.9 feet width. *New York* was later lengthened to 350 feet. While being overhauled at Newburgh, *New York* took fire in the galley and was damaged beyond further use in October, 1908.

STEAMBOATS OF RECENT TIME

The People's Line brought out *Adirondack,* Captain S. J. Roe, in 1896, the last steamboat to be wholly built by John Englis & Son. *Adirondack* measured 3,644 tons, 440 feet length, 50 feet beam and 12 feet depth of hold. W. & A. Fletcher Company built the engine with cylinder 81 inches diameter by 12 feet stroke. During the World War *Adirondack* served as a Navy barracks at Brooklyn Navy Yard and afterwards tied up at Athens, waiting upon the wreckers.

Hendrick Hudson was built in 1896 by Marvel & Company, Newburgh, for the Day Line, from plans by Frank E. Kirby and Millard & Brother, the deck houses being built by John Englis & Son. *Hendrick Hudson* is registered 2,847 tons, 379 feet length, 45 feet beam, 82 feet over guards, 13 feet depth of hold and 8 feet draught. W. & A. Fletcher Company built the compound engine with cylinders 45 and 70 inches diameters by 7 feet stroke and the paddle wheels are 24 feet diameter, feathering type, and the speed 23 miles.

The Marvel yard built *Onteora,* 1,241 tons, in 1898 for the Catskill Evening Line, 250 feet length, 35 feet beam and 10 feet depth of hold. The engine was built by the Fletchers with cylinder 55 inches diameter by 10 feet stroke. *Clermont,* 1,864 tons, was built for the same line in 1911, being 271 feet length, 39 feet beam and 12 feet depth of hold. The engine had cylinder 55 inches diameter by 11 feet stroke.

The Catskill Evening Line, long a popular vacation route, could not hold against motor cars when roads had been built into the mountains and *Clermont* and *Onteora* were sold to the Interstate Park Commission to run to Bear Mountain. The Catskill Line survives as a freight route, operating *Storm King,* built in 1911, a modern freight propeller, 192 feet length, 40 feet beam and 12 feet depth of hold, *Catskill* built 1923, 186.9 feet length, 40.4 feet beam and 11.4 feet depth of hold, and *Reserve,* a spare boat.

C. W. Morse came to dominate the Hudson Navigation Company and planned a great steamboat to bear his name. *C. W. Morse* was built at Wilmington in 1903 by Harlan & Hollingsworth Company, licensed for 2,000 passengers, 427 feet length, 50.6 feet beam, 90 feet over guards, 14 feet depth of hold and 9 feet draught. W. & A. Fletcher Company built the engine, 4,500 horse power with cylinder 81 inches diameter by 12 feet stroke. Feathering paddles are 34 feet diameter. The involved affairs of Morse dragged the company to receivership and the receivers changed *C. W. Morse's* name to *Fort Orange.*

The Hudson Navigation Company brought out two new steamers in 1909 for the Citizens' Line, *Trojan* and *Rensselaer,* sister boats of 2,000 tons. Marvel & Co. built the hulls, John Englis & Son the superstructures and W. & A. Fletcher Company the engines, having cylinder 70 inches diameter by 12 feet stroke. A new boat was built for the Albany night line in 1909, to replace *Adirondack,* first to be named *Princeton,* but launched as *Berkshire.* The hull was built by the New York Shipbuilding Company, Camden, N. J., and John Englis & Son built the deck houses and the Fletchers built the engine, having cylinder 85 inches diameter by 12 feet stroke. *Berkshire* registers 4,500 tons, 440 feet length, 50.6 feet beam, 88 feet over guards and 14.6 feet depth of hold.

The Day Line added *Robert Fulton,* Captain Ira Harcourt, in 1909, built by Marvel & Co., Newburgh, 337 feet length, 42 feet beam, 12.4 feet depth of hold and 2,168 tons. The engine came from *New York. Washington Irving* followed in 1913, built by the New York Shipbuilding Company, Camden, N. J., 416 feet length, 47 feet beam, 14.6 feet depth of hold, with beam engine, 6,200 horse power and cylinders 45 inches by 70 inches by 70 inches diameters by 7 feet stroke. *De Witt Clinton,* a twin-screw five-decked steel-hulled propeller, was built by Harlan & Hollingsworth Company in 1913 for the Grand Trunk Railroad's Providence-New York service, a line which never operated. *De Witt Clinton* was rebuilt in 1921, following war duty, for the Day Line's Bear Mountain

service, being 320 feet length, 48 feet beam, 22 feet depth of hold, and the twin-screw engines are rated 4,000 horse power.

A new day liner, *Alexander Hamilton,* Captain Dizer, designed by J. W. Millard & Brother, was built in 1923-24 by the Sparrow's Point plant of the Bethlehem Shipbuilding Company, 348 feet length, 76 feet extreme beam, 13.8 feet depth of hold and $750,000 cost. A triple expansion inclined engine is supplied with steam from two single and two double Scotch boilers burning oil. *Rangely* was purchased from the Maine Central Railroad in 1925, renamed *Chauncey M. Depew* to run to Indian Point. The long time policy of the Hudson River Day Line against Sunday operation met change in 1916 and the fleet capacity has since been available to Sunday travelers.

The Manhattan Line, an opposition service, competed for Albany and Troy trade in 1915 with one dollar fares, bringing on old boats. *Kennebec* from the Boston-Bath run was renamed *Iroquois. Frank Jones* from the Portland-Machias route became *Fenimore. Central Hudson* was chartered and when lost was succeeded by *Kaaterskill,* under charter. The competition hurt the People's Line, charging higher fares, and C. W. Morse purchased the Manhattan Line and its fleet for the Hudson Navigation Company and continued the cheaper service. Two old boats were added to the Manhattan Line, *Penobscot,* which became *Mohawk,* and *Saratoga,* which had been succeeded by *Trojan.* The Manhattan Line continued two seasons under the Hudson Navigation Company's ownership when the World War ended the service. *Fenimore,* late *Frank Jones,* was taken by the Navy to haul ammunition and blew up in York River. *Mohawk* was cut down for a barge at Noank. *Iroquois* was tied up at Norfolk, 1923, and *Kaaterskill* broken up at New London.

FAMOUS OLD STEAMBOATS

Interesting steamboats made the Hudson River colorful. The old *Norwich* ran for more than eighty years, having been built in 1836 by Lawrence & Sneden for the New York & Norwich Steamboat Company, then 160 feet length, 25.3 feet beam and 9 feet depth of hold, with a cross-head engine built by Cunningham & Hall, with cylinder 40 inches diameter by 10 feet stroke. *Norwich* came to the Hudson in the late '40's and carried passengers from New York to Rondout for a few years, but for the most part was a towboat owned by the Cornell Towing Company. In the days of the Erie Railroad's Piermont terminal *Norwich* was chartered each winter to the rail-

The famous old *Norwich,* which ran on the Hudson River for eighty years

road and fought the ice, keeping the railroad's connection open to New York. Although the hull was rebuilt many times, the original model was retained and the original engine continued in service until *Norwich* was broken up at Port Ewen in 1923.

Perhaps the oldest steamboat presently in passenger service is *Robert A. Snyder,* running on the Saugerties Line, once *Ansonia,* and later *Ulster,* but so rebuilt, enlarged and altered as to bear but slight resemblance to the Long Island Sound boat of 1848 when originally built to run to Derby, Conn. *Robert A. Snyder* was rebuilt again in 1920 at Hilderbrand's yard, Rondout, and was then able to pass a stiff governmental inspection. *Robert A. Snyder* ran with *Ida,* purchased in Baltimore, 190 feet length, and built at Wilmington in 1881, which succeeded *Saugerties,* formerly *Shenandoah,* which burned.

Santa Claus, Norwich, Baltic, General McDonald, George Washington, Metamora, Ontario, John Marshall, James Madison, Victory, Westchester, Highlander, Utica, New York, Columbia, Mohegan, C. Vanderbilt, Niagara, America, Alida, Cayuga, Syracuse, Belle and *Connecticut* were liners which were cut down, deck houses and staterooms removed, to become towboats. *Connecticut* on one occasion towed 108 barges up river.

Abraham W. Parsell, a famous steamboat engineer who died in 1923 in his 87th year, knew the Hudson in its glorious days. His was a rich experience and he retained a clear memory of the steamboats which ran within the span of his long life. Mr. Parsell was born at Esopus, April 12, 1836, and began steamboating as a fireman aboard *James Madison* in 1853. *James Madison,* Captain Harry Barber, carried one boiler on deck and in 1854 Mr. Parsell made the first experiment of burning fine anthracite screenings, or pea coal, discarded as useless before that time. Major Cornell was offered a canal boat load at $1 a ton and Mr. Parsell undertook to fire this fuel. When *James Madison* returned to Rondout from the first round trip, pea coal became standard fuel for river towboats and the price advanced.

Engineer Parsell remained on *James Madison* eight years, except for a short period in 1861, which season he finished in *Madison County.* He went in *Frank Carter,* part of 1862, and was assistant engineer of *Marshall,* becoming chief in 1864 and remaining four years. He was severely scalded in 1867 and was blind for four weeks, but went back to *Marshall* in 1868, next becoming chief engineer of *Hudson,* owned by Joseph Cornell. He continued with the

Cornell lines sixteen years aboard *Mohegan, Norwich, Santa Claus* and *Emerald.*

When Joseph Cornell, the Major's half brother, left the Cornell lines in 1868 to buy the Catskill Line from A. F. Beach, Mr. Parsell went with him, remaining until the ownership changed. The Catskill Line in 1868 owned *Thomas Powell* and four barges. *Hudson,* formerly *Westchester,* was added in 1869, and that year Joseph Cornell bought the Coxsackie Line from Captain John Smith. *New Champion* was acquired from the Hartford-New Haven Line, to run to Catskill, and Mr. Parsell became chief engineer. Cornell and Captain Black bought *Sunnyside* in 1870 and Mr. Parsell was chief during *Sunnyside's* service out of Coxsackie and Troy and he was chief engineer of *City of Troy* and *Saratoga.*

Joseph Cornell purchased the Middletown Steamboat Company, operating *Matawan* between Keyport and New York, and Mr. Parsell went along as superintendent engineer. *Minnie Cornell,* built at Athens in 1879, inherited *New Champion's* engine and was operated to Coney Island in 1880, but went to the Keyport run when *Matawan* was sold. *Wyoming* was added next, running between New York and New Brunswick, and the engine was replaced with one of 44 inches cylinder diameter by 8 feet stroke. After one season *Wyoming* was broken up at Rondout and a new hull built at Athens, becoming *New Brunswick,* in which *Wyoming's* engine was installed. Within a few years the Joseph Cornell fleet had increased to nine steamboats, including *Henry E. Bishop,* formerly *Josephine.* Joseph Cornell died in 1899, aged 62 years.

Mr. Parsell went back to the Citizens' Line as chief engineer of *City of Troy* in 1890, and in 1899 went ashore for four years as superintendent and inspector. He left the line when Morse added it to the Hudson Navigation Company and did not take up work again until 1910, when he became superintendent engineer of the Catskill Evening Line, remaining until 1916.

James Madison's engine, when the boat itself had worn out, was removed at Rondout. When the new towboat, *George A. Hoyt,* was built, the cylinder, cross-head, link and connecting rod from *James Madison* were used, while the walking beam came from *Mohegan,* and only the steam chest and front were new. *George A. Hoyt's* boiler was from the steamboat *Underwriter* and the safety valve and escape pipe had been in the old *Rip Van Winkle.*

Captain John Lyon continued in Hudson River steamboat service to his 89th year, long skipper of the Nyack-Tarrytown ferry *Rock-*

Riverside, an old time chain ferry on Rondout Creek

land. It was related that he cast off his own lines as deck hand, gave the wheel a turn as captain, started the engine as engineer and collected fares as purser. He began steamboating in *Francis Skiddy* in 1851, running to Albany, and next went in *George Washington,* making daily trips between Haverstraw and New York. He was steward of *Broadway,* a day boat to Yonkers and Dobbs Ferry, owned by Isaac P. Smith, when it blew up in the early '60's. Captain Lyon became skipper of the ferry *Tappan Zee* in 1880, remaining until it burned in 1887, being replaced by *Rockland.* Captain Lyon numbered Admiral Farragut, Horace Greeley, Grover Cleveland and Theodore Roosevelt among his friends. He died of pneumonia in February, 1923.

Riverside, a chain ferry connecting Rondout and Sleightsburg, built in 1870, continued until a suspension bridge was built across Rondout Creek in 1922 and held the record for longest active ferry operation. The name *Riverside* was official in the registry but *Skillypot,* a corruption of an old Dutch name for tortoise, was the local appellation. A previous *Skillypot* broke from its moorings, drifted downstream and sank below Port Ewen in the freshet of March, 1870. The machinery was recovered and installed in *Riverside,* built by Morgan Everson at Sleightsburg.

The two chain ferries were mastered by Captain Delamater, David Relyer, William Sleight, James Devoe, Isaac Sleight, succeeded by his son-in-law, Herbert A. Starkey, who died November, 1903, followed by Albert Norris of Esopus, to 1906, and last by Joseph Hasbrouck of Port Ewen.

CHAPTER V

Lake Champlain Steamboats

THE Champlain-Hudson valley was the gateway through which red and white armies, Indians, French, Continentals, English—explorer, settler, invader and defender passed and repassed for two centuries, and then with the canal and the steamboat it logically became the line of northern communication between New York and Canada. Lake Champlain was the second body of water regularly traversed by steamboats, *Vermont* being built in 1808 by John and James Winans, at the foot of King Street, Burlington. The Champlain Transportation Company, now a subsidiary of the Delaware & Hudson Railroad Company, was organized in 1825, the oldest steamboat operator in continuous existence. The minutes of every meeting of directors held since have been preserved. Captain Ell B. Lockwood, who was 95 years of age February 18th, 1925, is the oldest steamboat master in active service.

Vermont was launched sidewise and stuck in the sand, but was floated and ran between Whitehall and St. John's until 1815, when the connecting rod broke and plunged through the bottom, the boat sinking in Richelieu River, near the Isle au Noix. *Ticonderoga,* when building at Vergennes, Vt., in 1814, was seized by Commodore McDonough and converted into a sloop.

Phœnix was built at Vergennes in 1815 by Captain Jahaziel Sherman. The engine came from *Perseverance,* a Hudson River steamboat. *Phœnix* burned, September, 1819, near Colchester Point, twelve miles north of Burlington. S. A. Howland reported the burning in "Steamboat Disasters," published in 1840:

"CONFLAGRATION OF THE *PHŒNIX*
ON LAKE CHAMPLAIN, NIGHT OF SEPTEMBER 5, 1819, WHEREIN NOT A SOUL WAS LOST

"The steamboat *Phœnix* left Burlington about 12 o'clock at night, and had proceeded as far as Providence Island, half way between Burlington and Plattsburgh,

when fire was discovered about 1 o'clock in the morning. Two small boats attached to *Phœnix* were immediately filled with passengers, but the wind blowing violently from the northwest, the passengers were not all enabled to embark, and some few were obliged to jump overboard.

"Captain Jahaziel Sherman, the regular commander of *Phœnix,* was confined with a fever at Vergennes, and the boat at this time was commanded by his son, Richard W. Sherman, a young gentleman of about 22 years of age; but who, amid the confusion, danger and difficulties attendant on this terrible disaster, displayed an energy and presence of mind, not only worthy of the highest praise, but which we may seek for in vain, even among those of riper years. To qualities like these, rightly directed as they were, was it owing that not a person was lost on that fearful night. John Howard, steward of the boat, was deserving of credit for his coolness and confidence. He and Captain Sherman were saved by lashing themselves to articles thrown overboard, after the last boat, with its living freight, had left."

The author continues:

"A gentleman in Albany, in alluding to the destruction by fire of *Lexington* in Long Island Sound, January, 1840, contrasts Captain Childs' conduct: 'We need not go beyond the limits of our own State for a striking example of how much may be effected in such an emergency by decision and presence of mind on the part of the Captain of the Boat. The passengers rushed in crowds upon the deck and attempted to seize the small boats. They were met by the Captain, who having abandoned hope of saving his boat, now thought only of saving his passengers, and stood by the gangway with a pistol in each hand, determined to prevent any person from jumping into the boats before they were properly lowered into the water.

" 'Shortly after the boats had left the second time he discovered under a settee the chambermaid of *Phœnix,* who in fright and confusion had lost consciousness. Lashing her to the plank he had prepared for his own escape, this gallant captain launched her towards the shore, and with the proud consciousness that he had saved every life entrusted to his care, he sprung from the burning wreck as it was about to

Lake-Champlain Steam-Boat

CONGRESS,

RICHARD W. SHERMAN, Master.

FOR the better accommodation of Parties of Pleasure, and others, who may wish to view the remains of those ancient fortresses, Ticonderoga and Crown Point, and other more recently memorable places on the Lake, such as the Battle Ground of Macdonough's Naval Engagement—Plattsburgh, &c.—the Congress will leave Whitehall, as usual, every Thursday morning, at 5 o'clock, and if desired, will stop one hour at Ticonderoga—one hour at Crown Point, and arrive at Vergennes, at 6 P. M.—will leave Vergennes at 5 o'clock the next morning, and stop at Burlington and Plattsburgh, to give passengers an opportunity of seeing those places; and will meet the Phoenix, about half past 2 o'clock, at Cumberland Head, on her way from St. Johns; so that those who do not wish to visit Canada, may return in the Phoenix, and arrive at Whitehall again, at 6 o'clock next morning—having, in two days only, performed this delightful excursion, and viewed the principal interesting scenery of the Lake.

Lake-Champlain, July 24, 1821.

An early steamboat announcement

sink beneath the waters and, by means of a settee, reached the shore in safety.

" 'This is no exaggerated story. It is the simple narrative of one of the most heroic acts on record. We have only to add that the Captain who so faithfully and fearlessly discharged his duty on this trying occasion is still in command of a noble boat on Lake Champlain, and is known to every traveler as Captain Sherman of the steamboat *Burlington.*' "

Champlain, the third boat on Lake Champlain, was built at Vergennes, Vt., in 1817, owned by the Shermans. The engine came from the first *Vermont.* Passage through the lake was then $10 and short trips $1. *Congress,* the fourth steamboat, was built at Vergennes in 1818 and ran until condemned in 1835. A second *Phœnix* was built in 1820, running until broken up in 1837.

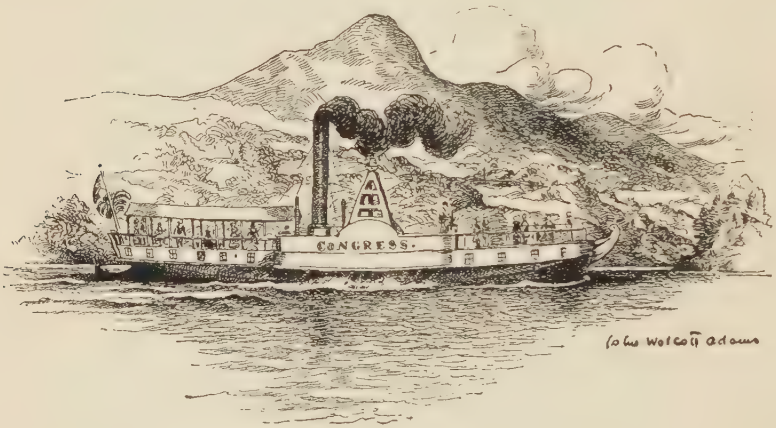
General Greene, Captain Dan Lyon, was built at Shelburne Harbor in 1825, the sixth steamboat on the lake, running until 1833, when it was converted to a sloop. *Franklin* was built at St. Alban's Bay in 1827 and ran until 1838, commanded by Captain Jahaziel Sherman, succeeded by his son, Captain Richard W. Sherman. *Washington,* an opposition boat, was built at Essex, N. Y., in 1827, continuing sixteen years, being owned latterly by the regular line. *McDonough,* built in 1828 at St. Alban's Bay, was wrecked in 1841. *Winooski* was built at Burlington in 1832 and remained in service until condemned in 1850.

The company's announcement, April, 1836, told: "Steamboats on Lake Champlain will leave each end of the lake at 1 p. m. *Franklin* is again fitted in perfect order for business and is too well known to require further notice. *Phœnix,* having been withdrawn from the line, the proprietors have, during the past winter, added 32 feet in length to *Winooski*—have also added new and powerful machinery, giving increased speed, and have otherwise fitted her up to take her station in the line, in a style of comfort and neatness which, it is hoped, will satisfy the public. She has a dining cabin 42 feet in length and also ample accommodations for ladies."

Water Witch was built in 1832 by Captain Jahaziel Sherman and ran opposition, but the captain joined the old company as director a year or two later and brought *Water Witch* into the fleet. *Burlington,* the twelfth boat, was built at Shelburne Harbor in 1837 and ran until 1854. Charles Dickens traveled on *Burlington* in 1842 and wrote: "There is an American boat—the vessel which carried us on Lake Champlain, from St. John's to Whitehall, which I praise

very highly, but no more than it deserves, when I say that it is superior to any other in the world. This steamboat, which is called the *Burlington,* is a perfectly exquisite achievement of neatness, elegance and order. The decks are drawing-rooms; the cabins are boudoirs, choicely furnished and adorned with prints, pictures and musical instruments; every nook and corner in the vessel is a perfect curiosity of graceful comfort and beautiful convenience."

Peter Comstock's Northern Transportation Line maintained through service New York to St. John's on Lake Champlain, "in



Congress, the fourth steamboat on Lake Champlain

connection with the Troy Steam Tow-Boats on the Hudson River and the Steamboats and Sloops on Lake Champlain." The announcement of the opening of navigation, season of 1830, continued: "The Boats on this Line, comfortably fitted up for the accommodation of passengers, manned with trusty and experienced Boatmen, with relays of Horses, will run Night and Day, starting a Boat every Morning and Afternoon from Troy and Whitehall."

Whitehall, Captain Dan Lyon, was built for Peter Comstock at Whitehall in 1838 and *Francis Saltus* added in 1846. The old company ran fares down to 25 cents with *Saranac,* for they had bought out Comstock three times previously, and made the competition so ruinous that Comstock sold his boat at a low figure. *Saranac,* Captain P. T. Davis, connected at St. John's with cars for Montreal in 1843 and at Whitehall "in the afternoon, where a Packet will be in

readiness to run to the Morning Boats for New York, and to the Great Western Railroad in time to take the Cars for Boston."

Captain Richard Sherman, hero of *Phœnix's* burning, while a general favorite, seems to have acquired caustic friends, for a song was sung 'round the lake, running:

Dick Sherman is so very slick
The fops all swarm around him thick;
As humbugs 'round a pot of honey
So Dick's cologne brings him the money.
Ha, ha, ha! that's the fun
For Dandy Dick of the *Burlington.*

Oh! Dicky is a gallant lad,
He makes the ladies very glad,
He smiles and flirts with a great parade,
And then makes love to the cabin maid.
Ha, ha, ha! that's the fun
For Dandy Dick of the *Burlington.*

His decks are scrubbed with so much care
That cowhide boots can't come it there;
If you cannot make your money rattle
You must go forward with the cattle.
Ha, ha, ha! that's the fun
For Dandy Dick of the *Burlington.*

The *Saltus* and the *Montreal*
Will drive him from the lake next fall.
Ha, ha, ha! that's the fun
For Dandy Dick of the *Burlington.*

Francis Saltus was built at Whitehall in 1844 by Thomas Collyer for Peter Comstock, 185 feet length, 26 feet beam, 8.9 feet depth of hold, 473 tons, and cost $50,000. The engine was rated 160 horse power and the speed was 14½ miles per hour. *Francis Saltus* ran fifteen years on the lake, being condemned in 1859. *Montreal* was laid down at Whitehall for Peter Comstock "and others" in 1846, the hull completed in 1847 and sold to the Champlain Transportation Company, who removed it to Shelburne Harbor, where it was leisurely finished and launched in 1855, named *Montreal,* and ran twenty-five years and burned in McQuam Bay, 1880.

Captain Richard W. Sherman closed his services with the Champlain Transportation Company in 1846, having been in command of *Burlington* from the time it came out new in 1837.

J. H. Hooker, built at Whitehall in 1846 by George Collyer, was converted to a barge in 1879. *United States* was built for the Champlain Transportation Company in 1847 by Capes & White at Shelburne and condemned in 1873. *Ethan Allen,* a towboat, was built the same year and continued until 1870. *Boquet,* built at Essex in 1848, was sold into Canada in 1871. *Boston* was built for the old company by L. S. White in 1851, continuing twenty years. *America,* built in 1851 by Thomas Collyer for Collyer & Griswold, was condemned in 1866. John Englis built *Canada* at Whitehall in 1853. *Canada* was 260 feet length, 33.6 feet beam and 10 feet depth of hold, running until condemned in 1870.

Oliver Bascom was built for the Northern Transportation Company by John Riley in 1856 and outlived its usefulness after twenty-seven years. *Adirondack* was built at Shelburne in 1867 and taken off in 1875. *Oakes Ames* was built at Marks Bay, 1868, for the Burlington Steamboat Company by O. S. Spear, originally a ferry and converted and renamed *Champlain* in 1873, being wrecked at Westport in 1875. *A. Williams,* built in 1870 for Orrin Corbin, served twenty-three years before being broken up.

The Whitehall-St. John's route continued until 1851. The next year Rouses Point was made the northern terminal. Whitehall ceased to be a regular port of call in 1874 when the route was from Fort Ticonderoga (now Montcalm Landing) to Rouses Point. The New York & Canada Railroad (now Delaware & Hudson) was completed in 1875 and served the west side of the lake. Champlain steamboats were no longer commercial carriers and engaged in summer resort business, which grew, in 1923 season, to 250,000 annual passengers.

Plattsburg became the northern terminal in 1876, when the railroad came, though lake steamers run excursions from Whitehall and occasionally go North to St. Alban's Bay and island landings. From Montcalm to Plattsburg is sixty-eight miles directly, but the steamer route, with crossing to Burlington, is eighty miles.

R. W. Sherman, ex *America, Canada* and *United States* were Champlain steamers of 1865 and *Adirondack, United States* and *Canada* formed the through route in 1870. *Vermont* replaced *Canada* in 1871; in 1874 *Champlain* replaced *United States* and in 1875 *Vermont* and *Adirondack* covered the through route and *A. Williams*

ran as ferry between Burlington, Vt., Port Kent, N. Y., and Plattsburg.

Vermont, second of the name, was built for the old company at the Shelburne in 1871 and was 262 feet length, 36.6 feet beam and 10 feet depth of hold, constructed by L. S. White, and had served thirty-one years when broken up. *Maquam* was built for the St. Johnsbury & Lake Champlain Railroad at Swanton in 1881, when it was hoped the port of Maquam would rival Burlington, and broken up after twenty-four years' service. The Grand Isle Steamboat Company brought out *Reindeer* in 1882, built at Alburgh by Jeremiah Faulka, which after twenty years sank at Central Vermont Wharf, Burlington, while out of commission.

Chateaugay was built in 1888 at Shelburne by A. B. Curtis and Harlan & Hollingsworth Company, an iron-hulled vessel, 205 feet length, 54 feet beam, 9.6 feet depth of hold, owned by the Champlain Transportation Company. The third *Vermont* was built in 1903 by L. F. Barrett, 262 feet length, 62 feet beam, 10.6 feet depth of hold and cost $200,000. *Ticonderoga* was also built by L. F. Barrett at Shelburne in 1905, being 220 feet length, 57.6 feet beam, 11.6 feet depth of hold and cost $170,000.

Vermont and *Ticonderoga* are capable of twenty-three miles' speed and *Chateaugay* of twenty miles per hour. These three steamboats comprised the fleet of the Champlain Transportation Company in 1924.

Captain Ell B. Rockwell, aged 94 years, the oldest shipmaster in active service, commands *Vermont.* His is not a mere honorary captaincy, a sitting berth in the pilot house, while others assume responsibility. Captain Rockwell takes his trick in navigating and is on deck when lines are being handled for docking, an active steamboat captain. Captain Rockwell visited Sir Bertram Hayes, commander of the White Star *Majestic,* when that ship was dry-docked in Boston in 1923.

CHAPTER VI

The Bridgeport Steamboats

CONNECTICUT steamboats were barred from New York waters by the Fulton monopoly and landed at Byram's Cove, Conn., no great distance from Bridgeport. When the Fulton monopoly was knocked out in 1825 Connecticut steamboats ran directly to New York, and Bridgeport had grown where it could support a line. *Lafayette* was built in 1828 for Henry Eckford, pioneer Bridgeport steamboat operator. *Nimrod,* a Vanderbilt boat from the Hudson, came to Bridgeport about 1835, running many years.

Bridgeport became an important transportation gateway with the building of the Housatonic and Naugatuck railroads, and steamboats connected with the new rail lines. The Housatonic Railroad Company was incorporated June 1, 1836, organized April 5, 1837, and opened from Bridgeport to New Milford, thirty-five miles, in 1840 and from New Milford to the Massachusetts state line, thirty-nine miles, December 1, 1842. The connecting Berkshire Railroad, from the Connecticut state line to West Stockbridge, twenty-one miles, was opened December 1, 1842, and leased to the Housatonic company January 11, 1843. The Stockbridge & Pittsfield Railroad, completed December 24, 1849, was leased to the Housatonic company January 1, 1850.

The Housatonic Railroad was known as the "serpent line" and followed the winding Housatonic River northwesterly from Bridgeport to Pittsfield, where it met the Western Railroad (now Boston & Albany), which connected with the New York Central at Albany. The Housatonic Railroad was first built with wooden rails, covered with iron straps. The Hudson River Railroad had not then been built. New York shippers loaded goods aboard Bridgeport steamboats for transfer to cars via Pittsfield and Albany for the West.

The Naugatuck Railroad Company was incorporated June 12, 1845, organized February 11, 1848, and the line completed to Waterbury and Winsted September 24, 1849. The Naugatuck used the tracks of the New York & New Haven Railroad from Devon to Bridgeport under a ten-year contract dated March 21, 1849, and thereafter subject to termination upon one year's notice. The Naugatuck Railroad occupied the Housatonic's facilities in Bridgeport until September 1, 1863, when it acquired its own terminal.

A contract for steamboat connection to New York was ratified at a meeting of the Housatonic Railroad's directors held February 21, 1842, and the railroad reported to the Connecticut General Assembly in 1843 that it had "during the past year not only completed the road, but have also made arrangements with other railroads so as to form uninterrupted connection between tidewater at Bridgeport and Hudson, Albany and Boston."

The first purchase of wharf property in Bridgeport by the Housatonic Railroad Company was made April 30, 1846. The railroad's contract for steamboat operation continued to November 14, 1850, when a contract was made with the New York and New Haven Railroad Company covering interchange of New York business, which continued until January 1, 1860, the arrangement with the railroad then being cancelled and a new agreement made with the steamboat company to carry all of the New York freight.

The New York & New Haven Railroad was opened December 27, 1848, and the company made a contract with George L. Schuyler, operating steamboats, December 28, 1848.

Bridgeport steamboats met competition of the Derby Line, which called at Bridgeport and Stratford. *Ansonia,* Captain Deming, ran to Bridgeport, Stratford and Derby. *Ansonia,* built in 1848, is now known as *Robert A. Snyder* and runs on the Hudson River Saugerties Line, able to pass stiff steamboat inspections. *Norwalk.* Captain Peck, built in 1849, fitted with crosshead engine, was running on the Derby route in 1854. *Norwalk* became *Aurora* and was last known as *Oriental,* then running on Providence River. *Monitor, Naugatuck,* a twin-screw propeller, *Housatonic* and *Ruggles* followed in Bridgeport-Derby service, managed by Fitch Smith, continuing until 1883. *Monitor,* a side-wheeler, was built in 1862 and went to the Hudson River Peekskill run in 1872 and was broken up at Jersey City in 1882.

Roger Williams was advertised to run "after November 16, 1850, three times a week from the foot of Market Street (New York), Captain Weeks commanding." *Roger Williams* came from the Hudson and may have served Bridgeport in winter seasons when navigation closed on the Hudson, and when western shipments could not be made to Albany by Hudson River steamboats.

The Hudson River Railroad was completed to Albany in the early '50's and western freight went largely by the new line. When Alfred Bishop's New York & New Haven Railroad was built it was believed Bridgeport steamboats could not run at a profit. Bishop de-

Ansonia, one of the oldest steamboats, several times rebuilt and still in service

clared that "the railroad would carry one-half the steamboats' passengers in five years' time."

John Brooks, a side-wheeler with two stacks and boilers on the guards, 239.8 feet length, 31.4 feet beam and 10.8 feet depth of hold, ran from Bridgeport in 1859. When the Civil War called for steamboats *John Brooks* was chartered for $600 a day and served in Virginia and Carolina waters, coming back to the Bridgeport Line. *John Brooks* was altered to have a single boiler in the hull and ran many years in New Hampshire and Maine waters.

The Connecticut Legislature authorized the Housatonic Railroad Company June 17, 1864, to subscribe to the capital stock of such joint stock corporations "as hereafter may be organized under the laws of this state for the transportation of freight and passengers between Bridgeport and New York on vessels propelled by steam." The Housatonic Railroad Company subscribed for $26,000 stock of the Housatonic Transportation Company's $30,000 capital. The railroad loaned $71,000 to the Transportation Company to purchase "the propeller *Captain A. H. Bowman* and the side-wheeler *Stamford* and for repairing Pier 35, East River, New York."

The Housatonic Transportation Company "met with severe losses owing to the sinking of *Captain A. H. Bowman,* and from strong competition, up to November 23, 1865." The investment of the Housatonic Railroad in the steamboat company had grown to $186,000.

The Bridgeport Steamboat Company was organized December 8, 1865, with $250,000 capital, the Housatonic Railroad subscribing $100,000. Ferris Bishop, son of Alfred Bishop, promoted the company, aided by Joe Richardson, a rich contractor, known as "the spite house man." The Bridgeport Steamboat Company took over the Housatonic Transportation Company property, that company winding up its affairs March 15, 1866, and assumed the Transportation Company's indebtedness to the Housatonic Railroad. An operating contract was entered into by the Housatonic Railroad Company and the Bridgeport Steamboat Company, January 10, 1866. *Bridgeport* and *City of Richmond* were purchased in 1866 and in 1867 *J. B. Schuyler* was built, continuing until succeeded by *Laura.*

The Naugatuck Railroad Company, through its owners, loaned the Bridgeport Steamboat Company $75,000, taking a mortgage, dated April 27, 1866, covering *Bridgeport, Stamford* and *James B. Schuyler.* Both the Housatonic and Naugatuck railroads made further investments in the steamboat company in 1869. *Stamford* went to Massachusetts in 1870.

DAY LINE COMPETITION

The excursion steamer *Idlewild,* owned by Alexander M. C. Smith, running from New York to Coney Island in 1876-78, earned profits out of which *Rosedale* was built at Norfolk, Va., in 1877. *Rosedale* ran two summer months to Coney Island and was brought to Bridgeport September 18, 1879, inaugurating day service under the management of Captain Anning J. Smith. Fare to New York was 65 cents and $1 for the round trip.

The Bridgeport Steamboat Company met this competition with *Laura,* which began to run days, but being slow cut fares to 25 cents and 40 cents for the round trip. The newcomers countered with 75 cents round trip fare, 50 cents one way and a 50-cent round trip ticket Tuesdays and Fridays and on these days *Laura* carried passengers for 25 cents round trip.

Alexander M. C. Smith sold in 1886 to the People's Steamboat Company, Charles Mason of the Bridgeport Brass Company, president; Captain Anning J. Smith, general manager, and P. T. Barnum, E. T. Bartram and Anning J. Smith, principal stockholders, who subscribed $10,000 each. Bridgeport merchants held considerable stock. P. T. Barnum owned valuable wharf property in Bridgeport which became the People's Line terminal. Barnum had long fought the Bishops over the transportation of the Barnum Show from its Bridgeport winter quarters.

The fight between the Bridgeport Line and the People's Line continued bitter. *Rosedale,* being new and smart, and *Josephine* (in 1886) hurt the old line, which chartered a number of fast boats to compete, bringing on *T. V. Arrowsmith, Sleepy Hollow, Sirius* of the Iron Steamboat Company's fleet, *Day Star* from Providence and the fast *John Sylvester.* Races between *Rosedale* and *John Sylvester* along the Sound were exciting, for the two were evenly matched. The charters were for short periods and then the Bridgeport Steamboat Company bought *Crystal Wave,* a fast boat from Providence.

When competition was at white heat a conference was called, attended by William D. Bishop and Ferris Bishop of the Bridgeport Steamboat Company and Captain Anning J. Smith of the People's Line. A gentlemen's agreement for a fair division of business on the ratio of present volume was entered upon and steamboats of the two lines carried 1,000 passengers daily.

President Ferris Bishop of the Bridgeport Steamboat Company died in 1887, succeeded by Sidney Bishop, his son, who continued until 1889, followed by James H. Jenkins. The company became

active under Jenkins' management and purchased the stock of the People's Steamboat Company in the open market and one-half of P. T. Barnum's holdings until it controlled the opposition company. When the People's Steamboat Company's directors sought to lease the property to others the new owners obtained a restraining order and managed the two lines in 1890. The People's Line then owned *Rosedale* and valuable Bridgeport wharf property. The Bridgeport Steamboat Company owned *Bridgeport,* built in 1857, *City of Bridgeport, Crystal Wave* and *Waterbury,* ex *Laura.* The first action brought under the Sherman anti-trust law considered this merger.

Crystal Wave was sold to Captain Randall for service on the Potomac River out of Washington, but collided with *Cleopatra* off the Delaware Capes, when both vessels were lost. *Bridgeport* ran ashore at Riker's Island in 1888 and was broken up in 1889. *City of Bridgeport* was built by James Baylis at Port Jefferson in 1886, being 500 tons, 144.8 feet length, 28.4 feet beam and 10 feet depth of hold and became *Rosalie,* the first steamboat in the Joy Line fleet, and later *H. C. Rowe & Co.,* an oyster boat, and burned in Peconic Bay, October 31, 1922. *Waterbury,* an iron boat built in Civil War days, had worn its plates thin and was replanked with wood, and burned in Brooklyn.

Nutmeg State was built by Robert Palmer at Noank for the Bridgeport Line in 1890 with engine by John W. Sullivan, New York. *Nutmeg State* was commanded by Captain Wilcox and by Captain Charlie Brooks. *Nutmeg State* burned off Sands' Point, October 13, 1899. The engine was recovered and installed in a Baltimore ocean tug. The Bridgeport Line built *William G. Payne,* at Harlan & Hollingsworth Company, Wilmington, 1902, later known as *Bridgeport,* and *Highlander* and rebuilt in 1925, being now *Bear Mountain. William G. Payne* measured 1,310 tons, 245.3 feet length, 36.9 feet beam, 14.6 feet depth of hold. The power plant was unusual in a side-wheeler, making 55 revolutions per minute when ordinary turning is from 18 to 22 revolutions. *William G. Payne* was allowed 2,000 passengers and carried this number several trips each week.

Allan Joy, built at Chester, Pa., in 1898, purchased from the Joy Line, measured 220.7 feet length, 37.2 feet beam, 14 feet depth of hold and was originally *Cape Charles,* later *Naugatuck,* continuing until the Bridgeport passenger service was discontinued when *Naugatuck* was laid up, being recently rebuilt for a freighter.

The Housatonic Railroad Company was first leased to the New York, New Haven & Hartford Railroad Company for ninety-nine

years from July 1, 1892, and its stock exchanged and retired, March 29, 1898, when its franchise and property were merged with the New Haven. The Naugatuck Railroad Company was leased to the New Haven for ninety-nine years from April 1, 1887, conveyed by deed January 31, 1906, and merged with the New Haven system March 26, 1907.

The New York, New Haven & Hartford Railroad Company purchased the Bridgeport Steamboat Company in 1903, when its capital was $300,000, with an outstanding bond issue of $100,000, the railroad paying cash and taking over Bridgeport dock property and the steamboats *Allan Joy, William G. Payne* and *Rosedale.* The steamboat line was taken into the Marine District of the railroad. President James H. Jenkins of the Bridgeport Line became assistant general manager of the railroad's boat lines. The Bridgeport Steamboat Company was deeded to the New England Navigation Company December 1, 1904, and conveyed to the New England Steamship Company July 1, 1912.

Captain Anning J. Smith engaged in the excursion business when he retired from the People's Line, operating *Isabel, John Sylvester* and *Rosedale,* which he purchased from the New Haven Railroad in 1904 for $15,000, and chartered *Chrystenah. Isabel* had been built by Washington Hawes at Fort Lee, previous to the Civil War, then known as *Æolus,* and patrolled the North and South Carolina coast, mounting one gun on the main deck. *Æolus* captured a notable prize of the war.

Æolus ran between Kingston and Newport, R. I., in connection with the railroad after the Civil War, continuing until 1894, when it was purchased by Robert Palmer, Noank, Ct., who built a new hull, increasing the length 40 feet, and installed boiler and engine from *Æolus,* coming out in 1895 as *Isabel,* being then 155.2 feet length, 26.5 feet beam and 8.5 feet depth of hold. *Isabel* ran on the rocks inside the buoy at Shippan Point, Stamford, September 28, 1915, and before wreckers could come the line storm brought total destruction.

Rosedale was laid up several years at Merritt & Chapman Company's yard, Norfolk, Va., and burned in 1922, in the same port where *Rosedale* had been built forty-five years before. *John Sylvester* went to Baltimore, being last known as *Starland.*

The Joy Line, when owned by the New Haven system, competed with the Bridgeport Line, bringing on *Fairfield,* a double-ender, formerly *Richard Borden.* The Joy Line passed to the Hartford & New York Transportation Company, which brought on *Seaboard,*

and *Fairfield* was broken up. When steamboats quit Bridgeport passenger service *Bridgeport* was sold and *Naugatuck* put out of commission. The New England Steamship Company put on *City of Brockton,* a side-wheel freighter from the Fall River Line. For a short period in 1904-5 the Merchants' Line operated *John P. Wilson* in Bridgeport-New York service.

Nonowantic, early on the Bridgeport-Port Jefferson run, was succeeded by *Park City,* built at Port Jefferson in 1898, being 143 feet length, 28 feet beam, 9.9 feet depth of hold, 391 tons, and is still in this service.

CHAPTER VII

The Old New Haven Lines

FULTON planned navigation of Long Island Sound before his death and *Fulton* was built for this run. Colden, in his "Life of Robert Fulton," published in 1817, says: "The last passage boat which was constructed under Fulton's directions, and entirely according to drawings and plans furnished by him, is the boat which navigates the Sound from New York to New Haven, built with uncommon strength, and the first steamboat that had a round bottom like a ship. This form was adopted because, for a great part of the route, she would be as much exposed as she would be on the ocean. It was therefore necessary to make her a perfect sea boat. The owners, as the highest tribute they had in their power to offer to his genius, and as evidence of the gratitude they owed him, called her the *Fulton*." The figurehead was a portrait bust of Fulton.

The New Haven route was a second thought, *Fulton* being built to demonstrate abroad, but the War of 1812 interfered and *Fulton* ran on the Hudson. Of the first trip to New Haven the New York *Evening Post,* March 25, 1815, reported:

> "The steamboat *Fulton* commenced her trip from New York to New Haven on Tuesday last, a little after 5 in the morning, and arrived at New Haven at 4:30 in the afternoon, having completed her passage in a little more than 11 hours.
>
> "From this performance of the boat this time it may be concluded that she will not often, if ever again, be so long on her route. The machinery had not been tried since last season, and was not in perfect order; some alterations had been made in the boiler which rendered it in some measure imperfect, she having been obliged to supply herself with such wood as the New York market afforded at the opening of spring; it was the worst kind and the least calculated to afford the necessary supply of steam.
>
> "The force of steam which she ordinarily carries is from 4 to 6 inches on an average, but on this passage she seldom

had more than one inch, often less, and never more than two, except when the steam was increased by her having been obliged to stop several times on her return in consequence of the fog. Yet, under all these disadvantages, the boat had completed her voyage in the time which has been mentioned without any aid from sails. She remained in New Haven agreeably to her intentions on Wednesday. Thursday the weather was so thick that no vessel could venture on the Sound. On Friday evening she left full of passengers, but had scarcely got out of the harbor before a fog came which entirely obscured the land on either side.

"From the time she left the port of New Haven till she made Sand's Light, they did not see any land so as to distinguish what it was. The wind blew a gale from the South, which was directly ahead, and raised a very rough sea, but the boat, notwithstanding the disadvantages which have been enumerated and under which she continued to labor, encountered it with the least difficulty.

"The facility with which she passed Hell Gate, in both instances, surprised everybody who was on board, and satisfied them that no vessel can be so well calculated to navigate this dangerous channel as the steamboat. On the return passage she passed the Gate about half an hour before high water, of course against a tide running at the rate of between three and four knots, yet she worked with as much ease, certainty and quickness as any light or small vessel could have done.

"*Fulton* arrived at this city about 10 o'clock last evening, having been fifteen hours from New Haven. The length of her passage was owing to her having been obliged to stop and let out her steam several times, to wait the clearing up of the fog so far that the land might be seen. On the return she passed a great number of vessels at anchor.

"It has been supposed that the Sound could not with safety be navigated by a steamboat on account of the difficulty of passing Hell Gate, the roughness of the sea and the impossibility of making the compass traverse when attracted by so much iron as must necessarily surround it on board the boat. But these objections the passage of *Fulton* has proved are without foundation. She will probably never again have to encounter so many disadvantages. It does not happen but seldom that the weather is so thick and boister-

ous, and as to the capacity of the compass, that is tested by the fact that, having no landmarks to steer by, she made Sand's Light according to the course which the needle indicated.

"We have been asssured that this establishment has cost $90,000 and we believe it may be affirmed that there is not in the whole world such accommodations as *Fulton* affords. Indeed it is hardly possible to conceive that anything of the kind can exceed her in elegance and convenience. Her passage will probably be made in 8 or 9 hours. The beauty of the scenery through which she passed cannot be surpassed. The enterprise has not only been attained with great expense, but great risk; but we think the owners as well as the public may be congratulated on the success of the experiment."

Fulton was sloop rigged, depended on sails to help the speed, and was 134 feet length, 26 feet beam, 30 feet over rails and measured 327 tons, with a square engine of about 6 feet stroke. Feeling in Connecticut ran strongly against the Fulton-Livingston monopoly and when travelers refused to patronize the monopoly boats *Fulton* was withdrawn.

William Gibbons, later plaintiff in the action against the Fulton monopoly, brought out *United States* in 1821, built by J. Williams, New York, 140 feet length, with engine by the Allaire Works. The first plan was to run on the Hudson and when driven off *United States* ran to New Haven. Denied the use of New York waters, its passengers and freight were landed at Byram's Cove, most westerly point in Connecticut, twenty-five miles from New York, where transfer was made to stages.

The New Haven Steamboat Company was organized in 1822 and *United States,* Captain Beecher, made three weekly trips. This service continued until 1825, when *Hudson* was added and daily passenger and freight service inaugurated which continued almost 100 years. *United States* was the first steamboat equipped with a pilot house, referred to as "Captain Beecher's suspended chicken coop." While racing on the Sound, September 10, 1830, the boiler flue collapsed and nine lives were lost. *United States* went to the Hudson in 1832, continuing until 1840, when broken up.

Superior took the place of *United States* in 1830 and *Hudson* was succeeded by *Splendid* in 1832. They were the largest and fastest steamboats in Long Island Sound at the time, built by Smith, Dimon

& Comstock. *Splendid* and *Superior* had low forward decks, wide ship's sterns, the paddle wheels stood high, boilers were located on the guards and there were staterooms on the hurricane deck. *Superior* had an enviable record of 651 trips to and from New Haven without a single breakdown or an extra cent spent for repairs or loss. These two boats "gave complete satisfaction to the public and their owners."

Newhaven replaced *Superior* in 1835, which was then sold for Hudson river towing and passenger service. *Newyork* replaced

Steamboats burned wood and their fires lighted the heavens at night

Splendid in 1836, which became a spare boat. *Newhaven* and *Newyork* were 524 tons, built by Lawrence & Sneden, 250 feet length, 23 feet beam, 11 feet depth of hold. James P. Allaire built the engines, having 52 inches cylinder diameter by 10 feet stroke, and single boilers located in the hold. The paddle wheels were 24.6 feet diameter, buckets 12 feet length and 39 inches dip. *Newyork* began regular trips April 4, 1836, and continued twenty years on this run, thereafter going to the Hudson as a towboat. Charles Dickens gives an intimate picture of *Newyork,* "a floating bath house," and said:

> "This was the first American steamboat of any size that I had seen; and certainly to an English eye it was infinitely less like a steamboat than a huge floating bath. I could

hardly persuade myself, indeed, but that the bathing establishment off Westminister Bridge, which I had left a baby, had not suddenly grown up to enormous size; run away from home; and set up in foreign parts as a steamer. Being in America, too, which our vagabonds do so particularly favor, it seemed the more probable.

"The great difference in appearance between these packets and ours is that there is so much of them out of water, the main-deck being enclosed on all sides, and filled with casks and goods, like any second or third floor in a stack of warehouses, and the promenade or hurricane deck being a-top of that again. A part of the machinery is always above this deck; where the connecting-rod, in a strong and lofty frame, is seen working away like an iron top-sawyer.

"There is seldom any mast or tackle; nothing aloft but two (sic) black chimneys. The man at the helm is shut up in a little house in the fore part of the boat (the wheel being connected with the rudder by iron chains, working the whole length of the deck); and the passengers, unless the weather be very fine indeed, usually congregate below. Directly you have left the wharf, all the life, and stir, and bustle of the packet ceases. You wonder for a long time how she goes on, for there seems nobody in charge of her; and when another of these dull machines comes splashing by, you feel quite indignant with it, as a sullen, cumbrous, ungraceful, unshiplike leviathan; quite forgetting that the vessel you are aboard of is its very counterpart.

"There is a clerk's office on the lower deck, where you pay your fare; a ladies' cabin; baggage and storage rooms; engineer's room; and in short a variety of perplexities which render the discovery of the gentlemen's cabin a matter of some difficulty. It often occupies the whole length of the boat (as it did in this case) and has three or four tiers of berths on each side. When I first descended into the cabin of *Newyork* it looked, in my unaccustomed eyes, about as long as the Burlington Arcade."

The memory of *Belle,* an early day boat out of New Haven, is kept alive by Belle Dock in New Haven and named for the steamer. *Belle* was built by George and Henry Steers, at the foot of Grand Street, East River, New York, in 1837, about 275 feet length. *Belle* stopped at Merwin Point, Stratford Point, Black Rock, Saugatuck

River, All's Well (Wilson's Point) and Shippan Point, but made no docks. Passengers and freight went ashore in the steamer's quarter boats. *Belle* ran every other day on the Sound shore run, afterwards going to the Hudson as a towboat, then owned by Michael Moran, and known as *Me Belle,* being second to *Norwich,* which was one year older, and rounding out a career of almost 60 years when broken up at Perth Amboy in 1896.

When *Newyork* burned in 1839 the New Haven Steamboat Company's property was sold to Commodore Vanderbilt and the Connecticut Steamboat Company of Hartford. Commodore Vanderbilt was active in the management of the New Haven Line, which also operated from Hartford.

Kosciusko, Captain Van Pelt, was named for the young Pole, who fought with the Colonists in the War of Independence. He was of Washington's military family, being an Aide to the General, and well liked. Returning to Poland he was imprisoned for heading a revolution and when liberated visited the United States in 1817 and was enthusiastically received. *Kosciusko* raced with *Traveller* when the two ran on the Hudson. *Kosciusko* came to the Hartford-New Haven line in 1843, then an old boat, commonly known as "cask-o-whiskey," and was succeeded by *New Champion* in 1846, also commanded by Captain Van Pelt, which continued until 1853 and then went to the Catskill Line. There had been an earlier *Champion,* owned by Commodore Vanderbilt and fast, which went South to race in 1838, cleaning up *Sidney* and *Potomac,* afterwards going to New Orleans and last registered from Pensacola. *Telegraph* followed.

Traveller was built in 1845 for Commodore Vanderbilt, and until the railroad was pushed through to New York in 1848 *Traveller* carried the mails. *Traveller* was 225 feet length, 29 feet beam, 9.6 feet depth of hold. The engine's cylinder was 52 inches diameter by 11 feet stroke, and the paddle wheels were 24 feet diameter and 11 feet length of buckets. Chester W. Chapin and Colonel C. H. Northam bought Commodore Vanderbilt's interest in 1850. *Traveller* had been a day boat out of New Haven, but this service was discontinued to force passengers to patronize the new railroad, which agreed to pay $20,000 annually for a term of five years. *Traveller* then ran as a night liner and *New Champion* served Hartford and New Haven.

The company became the Hartford, New Haven & New York Steamboat Company and bought *Granite State* in 1853, which burned in 1883. After *Granite State's* burning and because of the Chapin

interest in the Valley Railroad, the Connecticut River part of the route was abandoned.

Northampton and *New Haven,* opposition propellers of 450 tons, were built in 1866 and ran from Canal Dock, in the twenty-acre

Outside staterooms were always preferred

basin of the Farmington-Northampton canal, New Haven to New York, in connection with the New Haven & Northampton Railroad, continuing until 1879. *New Haven* and *Northampton* were built in New Haven and were 175 feet length, 32 feet beam and 7.5 feet depth of hold.

Continental and *Elm City,* side-wheelers with boilers on the guards, came on in 1866. They left each terminal at 11 in the morning and from opposite terminals at 3 in the afternoon, and a night trip at 11 p. m. *C. H. Northam* was added in 1872, built by John Englis & Son, being 323 feet length, 44 feet beam and 12 feet depth of hold. *C. H. Northam* was rebuilt by Englis in 1878, continuing until 1899. *Eleanor F. Peck,* a freighter built in Brooklyn, was added in 1884, afterwards becoming a New York harbor lighter, 105 feet length, 30 feet beam and 8 feet depth of hold.

The Starin New Haven Line was inaugurated in the early '70's, being first a towing line. The freighters *John H. Starin* and *Erastus Corning* were added in 1873 and began regular service in connection with the New Haven & Derby Railroad. *John H. Starin,* ex *R. C. McCulloch,* built in 1865 at Baltimore, was 220 feet length, 32.1 feet beam and 11.5 feet depth of hold, and ran on the route until lost on Bridgeport breakwater. *Erastus Corning,* built in 1857 at Brooklyn, came to the New Haven route when the live stock service on the Hudson was abandoned in 1873. When *Erastus Corning* had been rebuilt and lengthened to 175.6 feet, 34 feet beam and 8 feet depth of hold, the name was changed to *Haven.*

John Lenox, formerly *Transit,* built in 1864 at Brooklyn, 149 feet length, 25.5 feet beam, 8.7 feet depth of hold, replaced the lost *John H. Starin,* continuing until *York* was built for this service at Wilmington, Del., 1912. *York* is 184.7 feet length, 36.1 feet beam, 11.9 feet depth of hold. *John Lenox* was sold to the Catskill Evening Line, as a spare boat, becoming *Reserve. Yale,* a new freighter, was added to the Starin Line in 1924, making daily round trips.

A. Cary Smith designed *Richard Peck,* launched in 1892 by Harlan & Hollingsworth Company at Wilmington for the New Haven Steamboat Company. *Richard Peck* measures 1,819 tons, 303 feet length, 48 feet beam, 17.8 feet depth of hold, with triple-expansion twin-screw engines of 2,900 horse power. *Richard Peck* ran with *C. H. Northam.*

The New Haven Line continued its money making through the '90's, controlled by Chester W. Chapin, Jr., a banker of Springfield, Mass. Mr. Chapin discovered that rail freight, routed to New Haven and thence by his steamboats, was being carried through to New York all rail, against shipper's instruction. He complained to President Hall of the New Haven road that "a fresh young freight clerk" was diverting his traffic, receiving little consideration. The young freight clerk was Charles S. Mellen, afterwards president of the New Haven system.

Mr. Chapin leased dock property in Providence, keeping his moves under cover, and commissioned A. Cary Smith to design a new steamboat which was built at Sparrows' Point, Md., launched in 1899 and named *Chester W. Chapin,* 1,812 tons, 312 feet length, 64 feet extreme beam and 16.9 feet depth of hold, with triple-expansion twin engines of 4,200 horse power. The New Haven road had no knowledge of Chapin's Narragansett Bay Line until *Chester W. Chapin* and *Richard Peck* began to run from Providence as well as New Haven. The new crack boats hurt the railroad properties. *Richard Peck* had held its own in speed contests with *City of Lowell* and *Chester W. Chapin* was a new boat.

Competition grew white hot and then a launch from *Corsair* brought J. P. Morgan aboard Chapin's schooner yacht *Iroquois.* "Mr. Morgan debated with me how foolish it was to divide a dollar," said Mr. Chapin, recalling his trade with the railroad, shortly before his death in 1923. "I know now that I made a mistake selling the line, and perhaps the railroad made a mistake in buying me out. I could have made much more money continuing the service I had started to Providence, as was proved by those who came after," said Mr. Chapin.

The New Haven road interests took over the New Haven-Narragansett Bay Line in 1900. The Providence service was abandoned. *Chester W. Chapin* began to run out of New London. When *Maine* was lost in 1918 *Richard Peck* was put on the New Bedford run. After a hundred years of uninterrupted steamboat connection with New York the New Haven passenger service was abandoned. Occasionally a Sunday excursion brings the big boats to New Haven, recalling former busy steamboat days.

City of Brockton, a side-wheel freighter of the New England Steamship Company, and the Starin freighters, *Haven, York,* and *Yale,* serve New Haven shippers. The Joy Line ran out of New Haven for a time, both before and after it fell into the New Haven basket.

CHAPTER VIII

Steamboating on the Connecticut River

THE contributions of Connecticut, advancing steam navigation, have been important. John Fitch was born at Windsor, and it was on the banks of the Connecticut River that his dream of steam-propelled vessels was born. Samuel Morey was the first to navigate the Connecticut River in a steamboat, from Orford to Fairlee, in a craft hardly large enough to accommodate the inventor and the boat's machinery. Correspondence between Morey and Professor Silliman of New Haven, his patron, establishes the date of his invention, 1790. His patent "on the mode of applying the force of steam" was issued in 1795, signed by President George Washington.

Morey wrote of his invention and steamboat development, under date of October 31, 1818, and said: "I began my experiments in this vicinity (Orford, N. H.) on the Connecticut River. When my arrangements were sufficiently matured for exhibition, I went to New York and built a boat, and during three successive summers tried many experiments in modifying the engine and in propelling. Sickness in my family calling me home, I had the boat brought to Hartford, as a more convenient place, and there I ran her in the presence of many persons. . . . I have often made passages in steamboats, and do not see in their construction any new principle; and it seems to me peculiarly hard that the originator of these improvements, by which Messrs. Livingston and Fulton were enabled, principally, to succeed, should have had his rights overlooked, and himself excluded from the use of them on the very waters where many of his experiments were made."

Morey was first in producing a practical long distance steamboat, for in 1794 he voyaged from New York to Hartford, about 160 miles, in his stern-wheel-drive steamboat. The Rev. Cyrus Mann, an eyewitness of Morey's steamboat experiments, made a careful investigation of rival claims of steamboat invention, and in 1858 declared that Fulton "had surreptitiously seized upon Morey's invention and turned it to his own account, taking advantage of the quiet disposi-

tion and retired position of the real inventor. In this light Morey ever after, and to the day of his death (1843), viewed the whole transaction."

Other historians have agreed that Morey's was, "so far as it is known, the first steamboat ever seen upon the waters of America."

The Connecticut River above Middletown did not lend itself to easy navigation. There were troublesome bars and the freshets played tricks with the channel, barely 5½ feet deep, which shifted from one side of the river to the other.

Jeremiah Wadsworth, supported by fifty-seven prominent citizens of Hartford, petitioned the Assembly in 1788 requesting permission to dredge a channel 10 feet depth, proposing to defray the cost by imposition of tolls. The request was denied, since the Assembly was jealous of monopolies, but it later granted encouragement to the Union Company.

The charter is an interesting public service corporation document:

THE PUBLIC STATUTE LAWS OF
THE STATE OF CONNECTICUT, PUBLISHED 1808
Title CLXIX
UNION COMPANY

An Act for Incorporating a Company to Clear the Channel of the Connecticut River.
(Enacted in October, 1800)

Be it enacted by the Governor and Council and House of Representatives, in General Court assembled, That John Caldwell and John Morgan and all such persons as are or from time to time may be associated with them, for the purpose of removing the obstructions to the navigation in Connecticut River from Hartford to the Sound, and their successors be, and they are hereby incorporated for said purpose, and made a body politic by the name of Union Company. . . .

The capital stock of said company shall consist of a sum not less than eighty thousand dollars to be divided into sixteen hundred shares of fifty dollars each, which shall be transferable as the directors shall appoint; Provided nevertheless, That if the said sum shall not be found sufficient, the company shall have the power to assess a further sum, not exceeding fifty dollars on each share; and the amount of

such share shall be payable at such times and by such installments as the said company shall direct.

That for the purpose of widening the channel of said river and cleansing the same, and to operate on the current of said river so as to aid their object, the president and directors of said corporation shall have power to dig, cleanse and remove obstructions from the channel and the bars of said river and all parts thereof, and shall have power to erect and build such wharves, piers and hedges in said river, or on the banks thereof as they may judge necessary, they paying to the owner or owners of the land where such wharves may be erected such sum or sums as may be assessed by the county court of the county where such land may lie.

That whenever the said corporation shall have so far removed the obstructions in said river as to increase the present depth of water between Hartford and Middletown and shall make the same more than six feet in depth and of a suitable width, so as to enable vessels to pass which are now obstructed, and shall obtain a certificate thereof from the county court of Hartford county, as is hereafter provided, it shall be lawful for the said corporation, and they are hereby authorized to demand and receive from the owner or master of each and every vessel passing up or down the river, the following toll, viz.:

For each vessel which shall arrive at Hartford from Middletown or below or depart therefrom for Middletown or below and drawing

From six to six and a half feet of water	six dollars
Six and a half to seven	ten dollars
Seven to seven and a half	fifteen dollars
Seven and a half to eight	twenty dollars
Eight to eight and a half	twenty-five dollars
Eight and a half to nine	thirty dollars
Nine to nine and a half	thirty-five dollars
Nine and a half to ten	thirty-eight dollars

That said corporation shall not be entitled to receive said toll until they shall obtain a certificate from the county court for the county of Hartford that the obstructions to the navigation of said river between Middletown and Hart-

ford are so far removed and the depth of water increased, that upon a fair construction of this act they are entitled to receive the same—and until they shall have published such certificate four weeks in a newspaper published in said Hartford; . . .

At the expiration of said fifteen years, the said corporation shall exhibit a full and just statement of their accounts, including their receipts, expenditures and dividends, to the General Assembly of this State, and if it shall be found on adjustment of such account, that the receipts of toll shall exceed the amount of twelve per cent upon the capital stock of said company, exclusive of the annual expenses, the rate of toll to be thereafter received, may in such case be reduced in proportion to such excess, and a regard to the gradual discharge of the capital stock of said corporation. And the said corporation shall, from time to time, and at least once in each year during the said term of fifteen years, by their president and directors, exhibit a just and fair statement of their accounts to the said county court and have the same adjusted and settled by said court.

And this act shall be and continue in force for and during the term of sixty years from and after the time when said company shall have right to commence the receipt of toll as aforesaid.

The Union Company dredged the bars, removed obstructions, erected piers, stoned banks and planted willows to protect the banks against rushing flood waters. They succeeded in digging a channel 7½ feet over the bars, a deepening of more than 2 feet of Hartford Bar, Hartford Bar, Jr. (Clay Banks), Wethersfield Bar (Pratt's Ferry), Log Bar (Press Barn), Log Bar, Jr., Glastonbury Bar, Dividend Bar, Pistol Point Bar and Quarry Bar.

Six years after its incorporation the Union Company had so progressed in deepening the channel that it might impose tolls (1806) and immediately the toll system met with opposition. In 1831 and in 1836 attempts were made to revoke the charter, and it was contended that the State did not have a right to tax a class for traveling upon its "navigable tide waters." There were attempts to force the channel passage without payment of tolls. The Union Company built stone piers marking each side of its channel entrance, and across these piers stretched a heavy chain.

The Union Company continued for the full period of its sixty

years' charter, its last annual meeting being held May 28, 1864, when its affairs were wound up. The company had spent $45,000 in improvement of the river channel to 1835; the steamboat company spent $34,000, while the city of Hartford contributed $12,000.

The Eight Mile River Company was incorporated to build and maintain a toll channel in Hamburg Cove, being owned by the merchants and farmers of the neighborhood.

Large subscriptions of capital for public works were difficult to obtain and resort was had to lottery. In 1790 the "River Bank Lottery" was authorized to raise money for "supporting the Bank of the River, adjoining the Public Road through the Long Meadow of Middletown." The first wharves in Hartford were built with money raised through lottery.

THE FIRST COMMERCIAL STEAMBOATS

The steamboat *Fulton* began to run on the New Haven route in 1814 and "to exhibit herself she ran up the Connecticut River, where she was received with great enthusiasm by large crowds." She was commanded by Captain E. S. Bunker, a Connecticut Yankee, who was anxious to show his command to the home folks.

John L. Sullivan, a Boston engineer, conceived a plan of steam towboats for which he secured patents. Early in 1817 he offered to sell his plan to a company to be formed for operating "Steam-Tow-Passage-Boats" on the river below Hartford and after he had locked Enfield Falls, navigating the river above.

Sullivan's proposition was accepted and the Connecticut Steamboat Company incorporated, October, 1818. The organization had been effected some months before and a steamboat was built at Hartford after Sullivan's idea, as "an experiment of a new kind of steam engine." The boat was originally planned to be 70 feet length and 17 feet beam, but before the keel was laid the plans were changed. It was thought best to build a boat large enough to "accommodate passengers going to Saybrook." The Connecticut *Courant,* November 10, 1818, said:

"STEAM BOAT LAUNCH

> "Last week was launched from the ship-yard in this City, the first steam-boat ever built on the Connecticut River. It is designed for a tow boat, to ply between this city and the mouth of the river."

The company met financial difficulties and the boat did not meet expectations. It made its first trip July 16, 1819, and attained a speed of six miles, though "gas fire from tar was found a very useful auxiliary." Afterwards this steamboat, called *Experiment,* was put into service, and in the summer of 1822 was run by Captain Haskell to Saybrook. The next year it made two trips weekly to New London. *Experiment* was enrolled in the Custom House at Middletown, August, 1819, as being 104 tons, registered in the name of James Pitkin, East Hartford, agent of the Connecticut Steamboat Company.

War was waged against the Fulton monopoly and the company petitioned the Connecticut Assembly, May 7, 1819, for an act similar to the one New Jersey had passed in 1811, prohibiting steamboats of the monopoly entering Connecticut waters. Action was delayed, but such an act was passed May 27, 1822, by an almost unanimous vote over the veto of Governor Wolcott. The passage of this "retaliatory law" called attention to the steamboat field.

The Connecticut River Steamboat Company was formed to operate between Hartford and New Jersey shore, near New York, and received its charter May, 1823. The leading spirits were Colonel C. H. Northam and Mayor Philip Ripley of Hartford.

The company's first steamboat, *Oliver Ellsworth,* was built by Isaac Webb & Company, New York, and launched February 4, 1824. Construction was superintended by William C. Redfield, of Cromwell, Connecticut, who later devised safety barges and built pioneer railroads. *Oliver Ellsworth* was named for a Chief Justice of the United States, a resident of Windsor, and was the first steamboat to have a cast iron boiler. She made her first trip to Hartford May 6, 1824, with sixty passengers and a large freight.

Oliver Ellsworth measured 230 tons, 127 feet length, 24 feet beam and 8 feet depth of hold. The Connecticut *Courant* described her "large, commodious and handsomely furnished cabins," containing sixty-two berths. Forward was a "Gents' Cabin" with sixteen berths, while the dining cabin was 54 feet length and contained thirty berths. On deck was a "Ladies' Cabin" 26 feet length, with sixteen berths. *Oliver Ellsworth* was schooner-rigged and carried sails.

The New York *Evening Post* reported her to be "on the whole, a very beautiful vessel with a covered promenade." Her first commander was Captain Daniel Havens of Norwich, former master of *Experiment,* which now connected at Saybrook with *Oliver Ellsworth* for New London. The agents in Hartford were Chapin & Northam. At later dates Captain Stow of Middletown and Captain Henry

Waterman of Hartford commanded *Oliver Ellsworth.* She ran on the route until 1833 with a short intermission in 1827 when *Fulton* supplied. Stages connected at Lyme for points east along the Sound shore and at Ely's Landing for Norwich.

On her regular trip, August 18, 1826, *Oliver Ellsworth,* Captain Thomas Stow, landed 400 passengers in New York in eighteen hours from Hartford. After passing Saybrook to the Sound, March 22, 1827, the boiler exploded and many passengers were scalded. Stephen Lockwood, a passenger, and William Rich of the crew, died of injuries. *Oliver Ellsworth* was picked up by *McDonough* and towed to New York.

Oliver Ellsworth, named for the Chief Justice, approaching Hartford

The Connecticut Legislature was sitting at Hartford at the time of the explosion and a post rider burst in upon the meeting, exclaiming, "The *Eliver Olsworth* has biled her buster!"

When the Fulton monopoly broke down and *Oliver Ellsworth* could run directly to New York opposition sprang up. The Hartford Steamboat Company was organized in 1824, beginning operations with *McDonough* in 1826, and the Steam Navigation Company was organized in 1825.

McDonough, Captain Daniel Havens, 272 tons, was built in New York and arrived in Hartford on her first trip May 12, 1826, being named for Commodore Thomas McDonough, hero of Lake Champlain, who had married into the Shaler family of Middletown. His exploits in the War of 1812, and with the Tripolitan pirates, and his command of the frigate *Constitution* were recent in the public mind, for he had been buried in Middletown the year before. The steamboat *McDonough* continued to run on the river until 1834, when sold down in Maine. The Hartford Steamboat Com-

pany added *Commerce,* which ran with *McDonough* in 1825, '26 and '29.

Oliver Ellsworth came back to the route a new boat. Passage to New York was $4.50 and both lines did a fine business. On one of the first trips *Oliver Ellsworth* ran onto Coot Bar, north of the present Stratford Shoal Light, near Bridgeport, but there was no light at that time to mark this dangerous spot. All Stratford was aroused to the peril of the steamer and with scoops and shovels dug a channel across the bar to deep water.

EARLY UP-RIVER STEAMBOATS

Hartford was the head of sloop navigation, but steamboats began to run on the river north of Hartford. The Farmington Canal was projected, with its connection at the Connecticut line, the Hampshire and Hamden Canal, continuing to Northampton, where it was hoped trade of the upper Connecticut River would be diverted through connecting canals to New Haven.

Hartford and Springfield citizens realized that something was needed to be done to hold this trade for the Connecticut River. An "Association for improving the navigation of the Connecticut River above Hartford" was formed in 1824, and a committee appointed to "examine and survey the obstacles" and to "enquire into the most practical method of improving said navigation." Canvass White, of Troy, N. Y., was the authority consulted and the findings of the committee are given in "Two Reports." One recommendation was that "a general meeting of citizens of all the towns on or near the valley" should be called, resulting in the first Windsor Convention, which met February 16, 1825. This meeting considered and adopted the second recommendation:

> "That it is desirable to combine the interests in all works and improvements through the Valley of Connecticut River upon such principles as shall secure the greatest benefit to the publick, consistent with fair remuneration to those who shall execute the requisite improvements."

The Connecticut River Company anticipated this plan, but met with difficulty in securing harmonious action from the legislatures of the four states concerned. Vermont passed an act, November 9, 1825, "to provide for improving the navigation in the valley of the Connecticut River," which act was to be in force and effect when

New Hampshire, Massachusetts and Connecticut had also assented, and though such action was earnestly sought, it was never fully given. Massachusetts consented to the consolidation of the South Hadley and Miller's Falls canals on the Connecticut River, March 28, 1828, when "The Proprietors of the Central Locks and Canals on Connecticut River" was incorporated.

Surveys were continued for the Connecticut River Company in 1825 and negotiations carried on with the proprietors of the several canal properties. They were valued at $368,000 and reports to the directors in 1826 stated that the purchase of canals and projected improvements would total $1,500,000.

Meanwhile work had been started on the Farmington and Northampton canals, and when these had been completed it was proposed to extend the canal along the west side of the Connecticut River. Massachusetts authorized such a plan, March 12, 1828, and New Hampshire and Vermont incorporated the Connecticut River Canal Company, 1828, allowing extension of the canal to Lake Memphremagog.

There was great enthusiasm for canals; one was proposed to connect Boston with the Hudson River. "Canalites" boasted that "the Almighty only made a river to feed a canal." Friends of river navigation began practical navigation of the river, and took their case to the United States Government in 1830 with the backing of the Windsor Convention. The "Canalites" likewise asked national aid, but support was denied to both.

The Connecticut River Company contracted with Brown & Bell, New York, in 1826 to build a small steamboat to run on the upper river. This boat was named *Barnet,* and launched September 26, 1826, and towed to Hartford by *McDonough,* arriving November 15th. Two days later it arrived at Warehouse Point. The canal around Enfield Falls had not then been built, and attempt was made to steam up and over Enfield Falls, assisted by men with poles pushing against the "hard water." The second attempt was successful, when scows were lashed to each side. Aided by the setting poles of thirty "falls men" *Barnet* made the ascent.

Steaming into Springfield *Barnet* was welcomed with a salute of twenty-four guns. Leading citizens were taken on an excursion. The next day it moved along to the Willimansett rapids, which were negotiated with the aid of men on the bank, and rested Thanksgiving Day at the falls of South Hadley. *Barnet* reached Northampton December 1st, and the next day Miller's Falls, steaming up the Deerfield River to Cheapside, being ice bound for a week, but reached

Bellows Falls, the arrival celebrated with a banquet at the Mansion House. Church bells rang and cannon boomed.

The return trip took five days, arriving at Hartford December 19th. President Alfred Smith reported the success of the trip to a meeting of enthusiasts gathered at Morgan's Coffee House in Hartford. *Barnet* was 75 feet length, 14½ feet beam and 22 inches draught, being driven with a stern wheel. The experiment encouraged the Connecticut River Company to hasten construction of the Enfield canal, which was begun in 1827 and completed two years later. *Barnet* burst a boiler in 1827.

Thomas Blanchard, employed at the Springfield Armory, constructed two steamboats, *Blanchard* and *Vermont,* and *Blanchard* made its first run to South Hadley, July 30, 1828. In September it carried a party of sixty from Springfield to Hartford and return. Hartford and Springfield newspapers thereafter published the first steamboat excursion announcement:

STEAMBOAT *BLANCHARD*

> Being conveniently fitted for the purpose, and the subscribers having been charged with command of her, will accommodate individuals or parties on excursions of pleasure or business.
>
> T. BLANCHARD.
>
> *Springfield, September* 17, 1828.

Vermont was 75 feet length, 15 feet beam, 3 feet draught and had a wrought-iron boiler, the first boat and engine built in Springfield. *Vermont* ran between Springfield and Bellows Falls, and sported a promenade deck. The drive wheel was set far aft on outboard supports. When the Enfield canal was opened, November 11, 1829, *Vermont* carried a large party through the canal to Hartford and return. *Barnet* towed the safety barge, *Lady Palmer,* in the canal opening festivities. *Vermont* began regular service between Hartford and Springfield in the spring of 1830.

The fare, Hartford to Springfield, was $1 and daily trips were made by *Vermont, Barnet* and *Massachusetts,* a new boat. *Massachusetts* was too large for the Enfield canal and ascended the falls under its own power. In 1832, when the New York boats were laid up for the cholera embargo, the three boats ran through from Springfield to Saybrook.

The Connecticut River Valley Steamboat Company owned several stern-wheel steamboats for towing luggers from Hartford to Wells River, Vt. The steamers were too large to pass through the canals. The first steamer would take four or six luggers to Willimansett, where they were "drawn over" by teams of oxen, led by a team of horses. They were operated through South Hadley locks and canal and taken by the next steamer to Montague Canal, and then by the next from Miller's River to the foot of Swift Water at Hinsdale, N. H., and as far as Bellows Falls and so on.

The Valley Company built two steamboats with "high pressure engines," *William Hall* and *John Cooley,* the former built at Hartford and *John Cooley* at Springfield. The John Cooley Company and Parker-Douglas Company did the freighting for merchants, each operating a towing steamer. Bardwell, Ely & Company carried for South Hadley, Northampton and adjoining towns. Captain Nash ran a steamboat between Hadley and Amherst until driven off the river by the railroad.

Stockbridge, Oliver & Company operated the Greenfield reach, joining the Greenfield Boating Company in 1837, then known as Stockbridge, Allen, Root & Company. This company owned *Ariel Cooley,* which towed their boats from the head of South Hadley Canal and landed them at the foot of Montague Canal, a run of forty miles. *Ariel Cooley* was a stern-wheeler of 90 feet length, 18 feet beam, with two high-pressure engines, 20 horse power each. The name was changed to *Greenfield,* and in 1840 a boiler burst, killing Captain Crawford, Engineer Wood and Lancy, the builder of the engines.

Above Turner's Falls steamboating was given up in 1832, following the collapse of the Valley Company. Thereafter boats were poled with a white ash timber. The term "white ash breeze" is common amongst boatmen, and then had a significant meaning.

Thomas Blanchard's steamboats were purchased by Chapin & Deming. The stage lines between Hartford and Springfield were operated by Sargent & Chapin. There had been great rivalry between the stages and steamboats. Blanchard had been aided by the canal company, but was threatened with heavy tolls unless he engaged in towing, and this interfered with passenger business.

Chester W. Chapin was a Springfield contractor, who had been induced to take over extensive stage lines by Jacob W. Brewster of Hartford. The Chapin lines connected at Springfield with the Major Morgan lines running east and west. For twelve years Chapin controlled transportation by water and stage between Hart-

ford and Springfield and was interested in steamboats running from Hartford to New York. He later became a railroad president.

In 1832 *Adam Duncan* was added to the up-river fleet, followed by *John Ledyard,* running to Bellows Falls. *Blanchard* was renamed *Springfield* and ran to Hartford. *Massachusetts* was fitted with heavier boilers by the new owners.

EARLY HARTFORD-NEW YORK STEAMBOATS

Victory, Captain Charles Davison, came to oppose *Oliver Ellsworth* and *McDonough* in 1830. *Victory* had been built in 1827 for Hudson River service. Its coming precipitated a rate war when New York passage got down to 25 cents, including meals. *Victory* went to Portland, Me., in 1832 and *Oliver Ellsworth* to the Swiftsure Line on the Hudson, running as a towboat in 1838 and was listed as late as 1851. *McDonough* went to Portland, Me., and in 1835 was sold to go to Cuba, but was wrecked soon after leaving New York.

Captain Jabez Howes brought *Chief Justice Marshall* to the Connecticut River, March 20, 1832, being registered by David F. Robinson, Secretary of the Hartford Steamboat Company. There was curiosity to see "the racehorse of the North River." *Chief Justice Marshall* was lost in a gale, April 28, 1835. Pilot Hascall cut himself adrift in a small boat and was lost, but passengers and crew were saved when the steamboat beached a mile east of New Haven light. The hull, "with or without boiler," was advertised for sale at auction, August 5, 1835.

Four steamboats running to New York were advertised in 1832 in Hartford newspapers, the announcements exhibiting bitter competition:

PASSAGE $2.50—MEALS EXTRA

THE STEAM-BOAT *OLIVER ELLSWORTH*

Will commence her regular trips between Hartford

and New York Monday, the 12th inst. leaving at 12 o'clock;.

Regular days leaving Hartford Mondays and Thursdays at 12 o'clock.

New York Tuesdays and Fridays at 4 o'clock, p. m.

Rates of freight the same as last year.

H. Brainard, *Agent.*

March 12, 1832

The Steam Packet

CHIEF JUSTICE MARSHALL

CAPT. SAMUEL H. HOWES

Will run between Hartford and New York the coming season. This boat is built in the best manner, of locust and cedar, is staunch and strong, of 314 tons burthen, and has 105 berths for passengers.

Her cabins are large and airy, and her speed equal, if not superior to any boat on the river.

Her engine is on the low presssure principle; her boilers are nearly new, and built on the most approved plan.

Capt. Howes, her commander, is an experienced shipmaster, and well acquainted with Long Island Sound.

The C. J. M. is fitted up in good style, is ready to commence her trips, and will leave N. York as soon as the river opens. Her regular days will be, from N. York Wednesdays and Saturdays—from Hartford Tuesdays and Fridays.

MACDONOUGH

CAPTAIN JABEZ HOWES

This substantial and well built boat has undergone very extensive and thorough repairs and alterations.

Her accommodations are greatly enlarged, having nearly 100 berths for passengers; her engine and wheels are much improved, and her speed increased; her boiler is of copper; her lower cabins are connected by pass ways, forming ranges of berths throughout the whole length of the boat.

The safety and certainty with which the boat has always performed her trips (having never lost a passage from any accident to her engine) and being also an excellent sea boat; recommends her to the confidence of the public.

Captain Howes, has, for several years past, had the command of one of the Liverpool and Boston line of packets; he ranks high in his profession, and it is not doubted he will give entire satisfaction to passengers.

The prices of passage and freight will be the same as

last season, unless the directors are compelled to reduce them by competition on the river.

Days of sailing—leave New York, Mondays and Thursdays, leave Hartford Wednesdays and Saturdays.

☞ the Macdonough's first trip will be Saturday, the 17th inst.

H. BRAINARD, *Agent.*

March 12.

Water Witch, owned by Commodore Cornelius Vanderbilt and commanded by Captain Jake Vanderbilt, his brother, came to serve Hartford in 1834. *Water Witch* made New York from Hartford in thirteen hours. Its place on the Hudson was taken by *General Jackson,* Captain W. W. Coit, which in 1835 was running between Saybrook, Sag Harbor, New London and Norwich. *General Jackson,* when it went back to the Peekskill route, exploded a boiler. *Water Witch* then returned to the Hudson and later ran with *Cinderella* from New York to Elizabeth.

It was announced *Water Witch* would make day trips to New York from Hartford with *New England,* 261 tons, built in 1835. Vanderbilt and the old company arrived at friendly arrangement and then *Water Witch* was advertised "to run at night and *New England* will maintain a day schedule." Both boats were then represented by the same set of shore agents.

This arrangement did not continue long. *Water Witch* was leaving at 5 p. m. three times a week and *New England* left the same days at 2 p. m. In September Vanderbilt advertised "No Monopoly" and added *Lexington,* dropping the fare to $2, which the old line met.

New England was a splendid new boat commanded by Captain Henry Waterman of Hartford. On the evening of October 9, 1833, when off Essex, both boilers exploded, resulting in the death of seventeen passengers and the scalding of others. The newspaper reports give a graphic picture of early steamboating. Steam power was measured by a stick, in inches. Steam gauges showing pounds of pressure were not known. The commander was not only navigator, but was required also to oversee the engine room. Steamboats landed passengers and freight by small boat and did not come to dock except at terminals.

The wreck of *New England* was reported in the Hartford *Daily Review:*

"Both boilers of the steamer *New England* exploded about 3 o'clock on Wednesday morning while she was landing passengers at Essex, 44 miles from Hartford. The boat, at the time of the accident was lying near the wharf, and a passenger was being landed in a small boat. There were 71 passengers on board. Eleven persons were killed

Commodore Cornelius Vanderbilt, with his *Cleopatra* in the background

and 14 wounded. The upper works in the center and after part of the boat were carried away, part of the deck was destroyed and several times fire started. Both boilers went over board. Those most injured were on deck and in the Ladies' Cabin above.

"The intelligence reached Hartford about 10 o'clock on the morning of the acccident, and the steamboat directors sent *Massachusetts* to convey passengers to Hartford. The

cause of the acccident is not known. Mr. Potter, engineer, was not on board and his place was filled by Mr. Marshall, who put up part of the machinery and was believed to be a capable man. The boilers were copper. They were made at the West Point Foundry and have only been used for the few trips *New England* has made. We suppose the directors will strictly investigate and if possible discover and make known the cause of the acccident."

A jury of inquest was impaneled to inquire into the manner and cause of John Estabrook's death. All members of the crew and passengers testified, the testimony of Captain Henry Waterman being reported:

"Lives in Hartford, is Captain of the steamboat *New England* and was on board at the time of explosion. For some time previous a small part of the engine did not work to his satisfaction. Boat being in New York he called on West Point Foundry and requested that Mr. Marshall, who put up the same engine, might go a trip or two in the boat and see if he could remedy the defect in the engine. Mr. Marshall accordingly came on board and Mr. Potter, regular engineer, in consequence of indisposition, remained at his home in Hartford. Mr. Marshall took charge of engine.

"On the 8th of October left New York at 4 P.M., wind fresh from the westward and considerable sea. About 7 P.M., the sea rising, found 15 inches of steam and directed to have it reduced to 8 or 10 inches. This was immediately done. Witness was in the engine room as often as once in 30 minutes until 10 o'clock; then went to his stateroom and remained until half past twelve o'clock when the boat was 3 or 4 miles to the eastward of Faulkner's Island; that about 12:30 he was again in engine room when there was but 8 or 9 inches of steam.

"Coming near the wharf at Saybrook Point some difficulty occurred in the machinery and was obliged to drop the anchor for 15 or 20 minutes. The engineer said the difficulty was in the working of the rods and valves that let steam into the cylinder; steam constantly blowing off while at anchor; saw one of the firemen pumping water into his boiler by hand and immediately sent others to assist him;

went and examined the other boiler; the fireman turned the cock and there was sufficient water. The difficulty in the engine being corrected, the boat came up the river; landed a number of passengers at Saybrook Point; then came up to Lyme, about 3 miles further.

"He thinks that a full valve of steam was not blown off at Lyme, but a moderate quantity; he had no knowledge of the steam after leaving Saybrook Point. The boat arrived at Essex about 3 o'clock in the morning; was in the stream, about 8 rods from the wharf—engine stopped—small boat with three hands in it, at the wharf landing a passenger; witness standing on the upper deck, a few feet forward of wheel house and 18 or 20 feet from larboard boiler, looking over the side and watching the boat that was then landing a passenger; when the boilers, one or both, instantly exploded, carrying away a great part of the upper works. He does not recollect that any steam was let off at Essex and he thinks the engine had not been stopped more than a minute; he had no knowledge that there was more steam than usual.

"The passage through the Sound was made in about 9 hours in consequence of a fair tide and very strong fair wind. The witness said the reason for ordering a moderate steam in the Sound was on account of the high sea. At the time of the explosion both engineers, that is, Mr. Marshall and Mr. Roberts, were at their proper places in the engine room. Mr. Marshall had not only worked upon and put up the engine, but was recommended by Captain Sanford of the steamboat *Superior,* and an owner of *New England* and was a man in whom the witness had entire confidence.

"Being enquired of as to the difference between *letting* or *blowing* off steam and *shutting it off*—he says, that letting or blowing off steam is done by hoisting the safety valve and permitting it to escape entirely. Shutting it off is done by stopping its passage into the cylinder, and consequently its action upon the engine in a greater or less degree, while it is at the same time retained and accumulating in the same proportion in the boilers, and the pipes leading therefrom to the cylinder; when the steam accumulates in the boilers to a certain height, it will raise the safety valve and escape of itself.

"Having given the evidence, the Jury do not deem it either necessary or expedient to express an opinion upon it, except so far as to find, as they do, that the deceased, John Estabrook, came to his death in consequence of the bursting of the boilers of the steamboat *New England,* near Essex, in the town of Saybrook, on the morning of the 9th of October, A.D. 1833."

JOSEPH HILL, foreman of the Jury.
EZRA S. MATHER, Clerk of the Jury of Inquest.
Essex, October 11th, A.D. 1833.

The Connecticut River Steamboat Company, owners, appointed a Board of Examiners, consisting of Professors B. Silliman and D. Olmsted of Yale College and Messrs. W. C. Redfield, Daniel Copeland and F. Lawrence, who examined the wreck and heard testimony and reported that "the explosion of the steamboat *New England* was caused by the pressure of steam, produced in the ordinary way, but accumulated to such a degree of tension which the boilers were unable to sustain. The steam, at the time of the explosion, must have accumulated to nearly or quite 30 inches, giving an aggregate expansive force on the internal surface of each boiler of not less than 3,000,000 pounds."

When repairs had been made *New England* came back under Captain Memnemon Sanford. In 1837 it went to the Boston-Portland, Me., run and in 1839 was run into by the schooner *Curlew,* fifteen miles east of Boon Island, and lost.

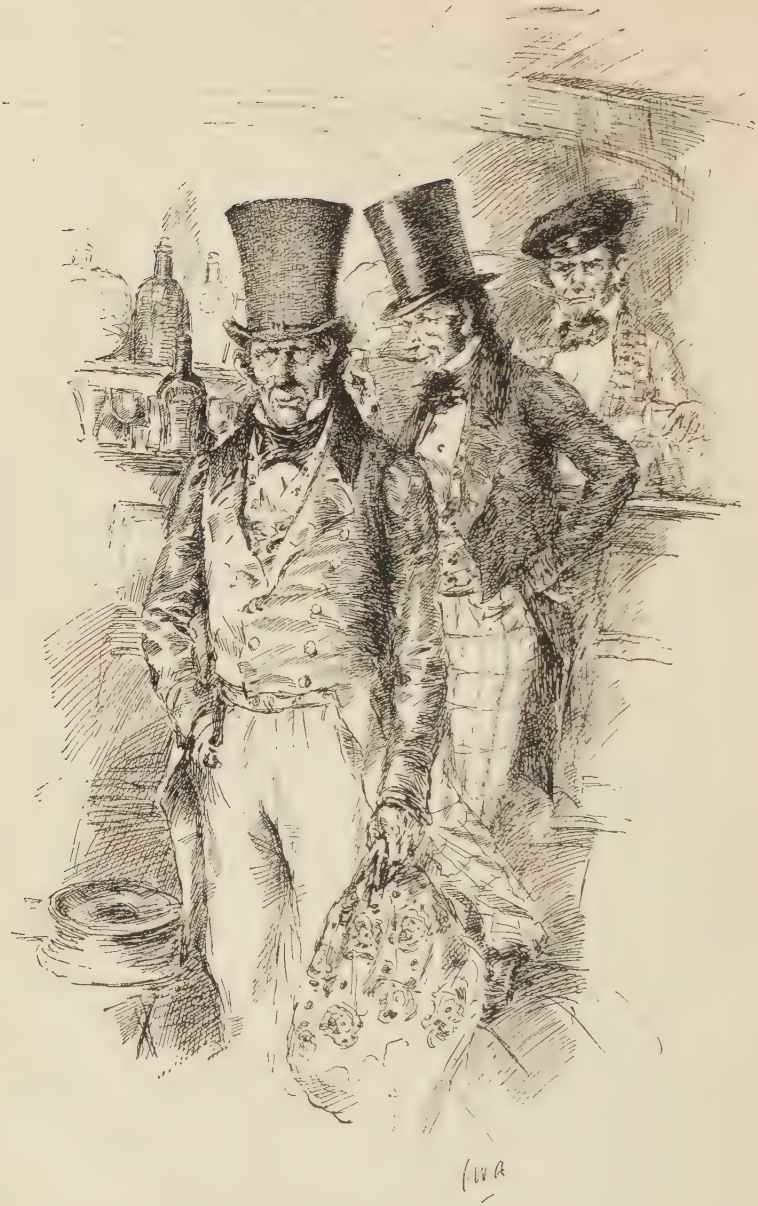
Liquor was a difficult steamboat problem. At the annual meeting of the stockholders of the Connecticut River Steamboat Company and of the Hartford Steamboat Company, owners of *New England* and *Chief Justice Marshall,* the shareholders placed themselves on record, passing these resolutions:

VOTED: that in the opinion of this meeting it is inexpedient to keep, or allow to be kept, any ardent spirits on board the boat belonging to this company.

VOTED: that the directors of this company be, and they are hereby requested not to allow any ardent spirits to be kept for sale or use aboard the boat.

Hartford, January 25, 1834.

Bunker Hill, 310 tons, was built at New Haven by Post & Griswold, being 192 feet length, 22.6 feet beam and 8.6 feet depth of



"The steamboat bar was forward—so were most of the men passengers"

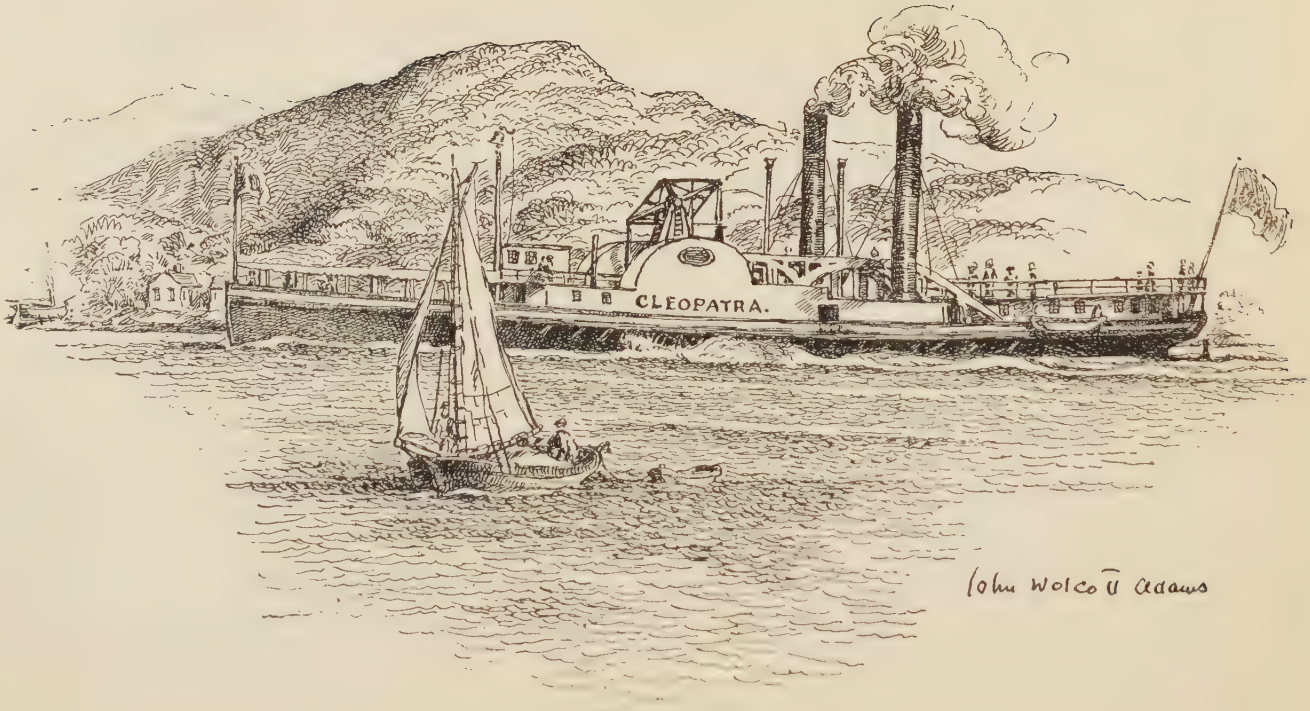
hold, with a beam engine designed by William Kemble of the West Point Foundry, 44 inches diameter cylinder by 11 feet stroke, rated 145 horse power. When first launched *Bunker Hill* proved difficult of handling and was pulled back on the ways, cut in two and lengthened, and appeared in 1835, commanded by Captain Memnemon Sanford, and made a few trips to Hartford, but left to run opposition to Providence. The going was hard and *Bunker Hill* returned to the Connecticut River, commanded by Captain Harrison, running against *Lexington*. *Bunker Hill* continued until 1841, when it grounded and became a total wreck. The engines were placed in the rebuilt *Globe* the next season.

Lexington, Captain Jake Vanderbilt, was the fastest boat of the time. Fares were cut to $1 for through passage to New York and 50 cents to Saybrook. Later passage to Saybrook could be had for 25 cents. Commodore Vanderbilt brought another of his boats, *Cleopatra,* Captain Reynolds, to the river May 28, 1837. The fare to New York continued at $1 except on the days when the opposition *Bunker Hill* was on the other end of the run and then the Vanderbilt boats, not meeting opposition, charged $2.

The opposition boats announced 2 P.M. as sailing hour. The old line advertised: "*Bunker Hill* will leave from two to five minutes after 2 o'clock to prevent the reckless destruction of their property and to protect their passengers from unnecessary dangers." Later *Bunker Hill* announced its sailing at 12 o'clock and the newcomers retaliated in an announcement that their boat would leave "precisely at 12 o'clock." The fight grew more bitter.

Emerald mixed into the scramble in September, but when the season neared closing *Bunker Hill* and *Lexington* were left alone. The new season, 1837, opened with *Bunker Hill* and *Cleopatra* renewing the battle and *Clifton* made connection at Lyme for New London and points east. The company announced "a first-class line of stages from New London to Lyme to connect with boats. Coaches leave Lord & Noyes every morning on arrival of the boats. Leave Allen's City Hotel, New London, at 1 P.M. Fare, New London to New York $1.50." In the fall *Thorn* was announced to carry passengers from Hartford to Saybrook, connecting with the steamer *Norwich* for New York. The Norwich Line provided this service to stop raiding of its field by *Clifton*. *Thorn* burned at Rondout Light in 1857 and *Clifton* burned in 1861, on the Hudson, being then a towboat in the lumber raft trade.

Bunker Hill and *Cleopatra* appeared on the same line in 1838, peace being declared and both sets of agents serving the one line.



Cleopatra, one of Commodore Vanderbilt's fighting steamboats on the Connecticut River

Bunker Hill ran on the rocks, off Cornfield Point, November 5, 1841, but was floated and reconditioned, then valued at $30,000, and had served splendidly. *Kingston* was a small propeller running during the seasons of 1836, '37 and '38.

WHEN CHARLES DICKENS RODE ON THE CONNECTICUT

Chapin & Sargent operated the stage routes, Springfield to Hartford, and Fink & Chapin ran the stern-wheel steamers, *Massachusetts* and *Springfield,* and later *James Dwight,* built by Charles Stearns at the foot of State Street, Springfield. *Agawam, Phœnix* and *Franklin,* built for passenger trade, were withdrawn in 1844 upon the opening of the railroad. *Franklin* went to the Delaware River and the others to the Kennebec.

Charles Dickens probably rode on *Massachusetts* when he made his trip to Hartford in 1842. The roads were bad and it was proposed that Captain Kit Stevens bring *Massachusetts* down the river with Adna Allen as pilot. *Massachusetts* was too beamy for passage through Enfield canal and the smaller boats were not strong enough to combat ice and the strong current then running.

Arrived at Hartford Dickens was interested to know if the Captain used tobacco, and Captain "Ad" Allen agreeing, Dickens grasped him by the hand and said: "It seems to be the general habit in this country." Dickens wrote of the filthiness of the habit, and his dislike for it, but he sent the captain a beautiful silver tobacco box which was highly prized.

The Douglass family numbered active up-river boatmen. Captain Ed. Douglass of Windsor Locks, when almost 90 years of age, described Charles Dickens' personal appearance, as told to him by B. M. Douglass, a member of *Massachusetts'* crew. "The lightweight Englishman wore a swallow-tail, snuff-colored coat, short red and white figured vest that was not long enough to reach his pantaloons, which were of true Yankee check, and looked as if they had been bought in a North Street secondhand misfit shop in Boston. Another thing I remember was his short bell-crowned top hat."

Dickens' trip in the turkey-red curtained stern-wheeler is described in his "American Notes." He wrote:

> "The captain of a small steamboat was going to make his first trip for the season that day and only waited for us to go on board. Accordingly we went on board, with as

little delay as might be. He was as good as his word, and started directly.

"It certainly was not called a steamboat without reason. I omitted to ask the question, but I should think it must have been half a pony power. Mr. Paap, the celebrated dwarf, might have lived and died happily in the cabin, which was fitted with common sash windows, like an ordinary dwelling house. The windows had bright red curtains, too, hung on slack strings across the lower panes; so that it looked like the parlor of a lilliputian public-house, which had got afloat in a flood or some other water accident and was drifting nobody knew where. But even in this chamber there was a rocking chair.

"I am afraid to tell how many feet short this vessel was, or how many feet narrow; to apply the words length and width to such measurement would be a contradiction in terms. But I may state we all kept the middle of the deck, lest the boat should unexpectedly tip over, and that the machinery, by some surprising processs of condensation worked between it and the keel; the whole forming a warm sandwich, about three feet thick.

"It rained all day as I once thought it never rained anywhere but in the Highlands of Scotland. The river was full of floating blocks of ice, which were constantly crunching and cracking under us, and the depth of water, in the course we took to avoid the larger masses, carried down the middle of the river by the current, did not exceed a few inches. Nevertheless we moved onward, dexterously; and being well wrapped up, bade defiance to the weather, and enjoyed the journey."

Massachusetts burned at her wharf in Hartford the same year, after a career of twelve years. Reporting the fire the Hartford *Times,* May 20, 1842, said:

"The steamboat *Massachusetts* took fire between 10 and 11 o'clock Thursday evening and was so burned as to render her forever useless. She arrived at our wharves at 4 o'clock in the afternoon from Springfield, and when the fire broke out we understand no one was on board of her. It is not known what caused the fire."

Phœnix settled down as a houseboat and burned in 1860. *Holyoke,* smaller than the others, was running above Hartford some time after the railroad was built. The last of the up-river wheelbarrow boats was *C. H. Dexter,* commanded by Captain Ed. Douglass. His father had fired the old *William Hall,* of which John Mulligan was engineer. Captain Asa Manchester was *Dexter's* master at one time.

Dexter carried passengers to the Philadelphia Centennial Exposition in 1876, being towed there by *City of Hartford,* Captain William Miner, and when the exposition closed Captain Miner towed her back to Hartford. *Dexter* was not fitted with condensers to run in salt water, and so had to be towed.

Captain "Ad" Allen lived to an advanced age. Of his up-river steamboat days he said:

> "Go with me up river on one of our best cabin boats, in a good south wind, or by steam. First we get under Hartford bridge; then, up mast, hoist sail and we leave Pumpkin harbor gushingly. On Windsor flats and Scantic we stir up the sand, but the wind increases and away we go. Steady there! Windsor Locks! Let off that brace; 'round with 'em; down sail.
>
> "Jo, run along and get a horse ready while we operate through the locks! And so we pass through Enfield canal, six miles by horse power, operate through the guard lock, up sail again and, leaving behind the roar of the falls, our boat goes through Longmeadow reach, kiting with 'a bone in her mouth.' We pass Springfield on a close haul, and soon reach the foot of Willimansett. Here Captain Ingraham hitches on his big team of six oxen and two horses, with a chain 100 feet long, and draws us through the swift canal, called 'drawing the Willimansett.'
>
> "We then cross the foot of South Hadley canal, operate through the locks, after paying toll to Uncle Si, then through the canal, two miles, and if the wind is strong enough, sail out at the head, and run up the winding river. The operation of 'getting out at the head' sometimes requires 15 to 20 men. This was done by tracking. A number of men go ashore with a long track line hitched to the mast, and, with yokes and collars over their shoulders, trudge and clamber along, and 'haul her over,' with inside polesmen to aid. These extra men were put on at the expense of the canal corporation.

"A machine was invented by Harry Robinson, one of our first class pilots, for drawing boats 'out at the head' which worked successfully. Boatmen called it a 'fandango.' Upon a good staunch boat were placed two upright timbers, firmly braced fore and aft, one on each side. Across these rolled the axle, with a drum for the rigging to wind upon, with floats and buckets at each end and outside the boat. By means of timbers reaching from this axle to the stern these floats could be lowered into, or raised out of the water. Inch and a quarter rigging was made fast at the head of this shute, and reaching to the 'fandango' 2,000 feet, was attached to the drum.

"The current carried the floats around, winding the rigging on the drum. So away goes the majestic 'fandango' up the stream, taking along a boat made fast to its stern. The faster the water runs the faster will go the flotilla against it.

"With the aid of the white ash our boat sails around the Hockanum, around 'old Hadley turn' and after running the gauntlet of School Meadow flats, which would puzzle an eel to do, makes the foot of Montague Canal, and so on through the canal and through Miller's upper locks, and then plain sailing to the 'foot of swift water' at Hinsdale. Here we take in a few 'swift water men' for 12 miles, then on to Bellows Falls, and the same over and over to Quechee and White River locks to Wells River.

"This is a good week's work, but it has often been done in less time. A day's work with the poles would be from Hartford to Windsor Locks,—and with a good south wind, from Hartford to Montague Canal. Between the last named places but little poling was done in latter years of boating, as steam was available.

"The down trips were different. A boat loaded with brooms, woodenware, wood, hops, and bulky articles was not easy to handle in a wind. Pilots were necessary over the falls at Willimansett and Enfield. Harry Robinson, and later Joseph Ely were the Willimansett pilots. The call 'Boat ahoy!' was heard at Enfield through the boating season either for boats or rafts, and brought Jack Burbank, Alv. Allen, 'Old Country' Allen, and Captain Burbank, Sr., who came aboard and drew cuts for the chance.

"The boats were put in trim for 'going over,' oars and

poles handy, rigging coiled and every man ready for emergencies. The pilots were so skilled that they rarely let a boat touch a rock. The run of six miles was quickly made, and the pilot ran or walked back for the next boat. The pilot's fee was $1.50. It was the habit to break in the raw hand on the passage over Enfield falls by showing him the silver mine at Mad Tom. The initiate got down close to the bow piece to look for the silver, and when the boat pitched into Mad Tom, and the water rushed over him a foot deep, he would retire aft and say he had seen enough. It required a number of gin cocktails at Hartford to dry him.

"I have listened to anecdotes of Edmund Palmer and Bob Abbe. I have known John Sanborn to go the whole trip to White River without speaking, and Dick Thorpe talked enough to make up. Captain Peck presided with dignity over Hartford passenger steamers. Captain Increase Mosely commanded one of the passenger liners, the best singer on the river, and Captain Hoyt was the complete story teller. Captain Jonathan Kentland ran an up-river line of his own and was known as 'Captain Don't.' Other good boatmen were Abbe and Ensign of Warehouse Point, King Hiram Smith of South Hadley, Captain Sam Nutt of White River, Tom Dunham of Bellows Falls and Rufus Robinson, the most consummate waterman of the Connecticut valley, and who, with all his skill, was carried to his death over Holyoke dam. The last of the clan were Captain Granger, Roderick Ashley, Stoddard Parker, Albert Gowdy, Sylvester Day and Ed. Douglass."

THE SHADOW OF RAILROAD COMPETITION

The railroad connecting Hartford and New Haven was completed in 1839. Connection was made with the New Haven boats for New York. Popular interest turned to the new railroad, and there was little excitement on the Connecticut River for the next two years following. *Splendid* ran on the river in 1841 and '42. The New Haven Line was purchased by Commodore Vanderbilt and the Connecticut Steamboat Company, largely owned by Chester W. Chapin and Colonel C. H. Northam.

The season of 1842 got under way May 1st when *Kosciusko,* Captain Van Pelt, commonly called *"Cask-o-whiskey"* came to the

Connecticut from the Hudson. She was old then, but did good service until 1845 when she was succeeded by *Champion*. *Globe,* Captain E. D. Roath of Norwich, rebuilt and fitted with engine from *Bunker Hill,* had been built in 1830 and served until 1848, and directly after the Mexican War went to Texas.

Champion was an outstanding boat, with *Cleopatra.* Both had charmed steamboat lives. *Champion* continued until 1851, thereafter going to the Hudson's Catskill Line. In 1842 *Ironsides,* a freighter, arrived from Philadelphia, making the run in 56 hours, the first twin screw propeller to come to Hartford; 100 feet length, 23 feet beam, 7 feet depth of hold, schooner rigged and made 6 miles an hour.

The Connecticut River was busy in 1846. There were 2,078 arrivals and departures of vessels at Hartford, including 652 steamboats. Their total freight was 173,430 tons. Ten Boston packets, two Providence traders, two connecting New London and Norwich and three steam propeller lines to New York, Albany and Philadelphia made the port busy.

Globe was succeeded in 1848 by *Hero,* commanded by Captain Joseph H. King of Essex, running until 1852 when *City of Hartford* came out. *Hero* went to the Hudson River as a tow boat. Captain Curtis Peck brought *Connecticut* (second of the name) to the Hartford-New York run in 1850; 250 feet length, 37.6 feet beam and 2,150 tons. *Connecticut* left at the same hour with *Champion,* and *Hero* competed with *Traveller. Connecticut* was built in 1847 and *Traveller* was two years older. *Traveller* was 225 feet length, 28 feet beam and 9.6 feet depth of hold, and was built for Commodore Vanderbilt, carrying boilers on the guards. The engine had cylinder 52 inches diameter by 11 feet stroke. Paddle wheels were 24 feet diameter and 11 feet face. *Traveller's* popularity came from its great speed. In 1850 it ran nights out of New Haven and *Champion* ran between Hartford and New Haven. Afterwards *Traveller* filled in on the river as a spare boat.

Osceola, a Providence boat, undertook to establish service between Hartford, river landings, New London and Nantucket, August 4, 1848, but quit after six trips. *Lawrence,* Captain Royal S. White, connected Hartford and Norwich in 1846 followed by *Alice* in 1850.

City of Hartford, 1,306 tons, commanded by Captain D. A. Mills, came out in June, 1852, and on the first trip was visited by thousands who had never seen such elegance of finish and magnificent furnishing. The Hartford & New York Steamboat Company, organized in 1841 to succeed the Connecticut River Steamboat Com-

pany, with $100,000 capital, was owner. Elisha T. Smith was president, and the directors were Samuel Woodruff of Woodruff & Beach Iron Works, Hartford; Elias Lewis of Middletown, George E. Goodspeed of East Haddam and George C. Collins of New York.

Brother Jonathan journeyed to New York by *Granite State*

City of Hartford was 273.6 feet length, 36 feet beam, 63.6 feet over guards and 10.6 feet depth of hold. Engines and boilers were built by Morgan Iron Works, New York, the engine cylinder being 60 inches diameter by 12 feet stroke and the wheels were 35 feet

diameter. Samuel Sneden, New York, built the hull, Reed, Tice & Hamilton the superstructure and Bootman & Smith were the painting contractors.

The new company competed with *Granite State,* 1,187 tons, commanded by Captain Joseph H. King, operated by the Hartford-New Haven & New York Steamboat Company. *Granite State* was built at the same time and differed from *City of Hartford* mainly in that the boilers were placed in the hull. After making Connecticut River landings *Granite State* called at New Haven. *Granite State* was 265 feet length, 35 feet beam, 11 feet depth of hold and the wheels were 35 feet diameter. Samuel Sneden built the hull, Hiram P. Berry the deck houses and Bootman & Smith did the painting, while Morgan Iron Works built the engine and boiler. William Savage was the Hartford agent. *City of Hartford* went out from the foot of State Street and *Granite State* from the foot of Talcott Street. Both boats were favorites on the river for many years.

The Shore Line Railroad, connecting New London and New Haven, was completed in 1852. It employed the car ferry *Shampashoe* until 1870 when the drawbridge connecting Lyme and Saybrook was built.

It became necessary to omit calls at landings where the water was shallow. The East Haddam & Hartford Steamboat Company was organized to serve this trade, closely allied to the Hartford & New York Steamboat Company. *Washington Irving,* 149 tons, with cross-head engine, was built in 1855 to serve this trade. *Middletown* had covered the smaller landings in 1838. Service to Long Island from the Connecticut River was organized by Captain Joy Post, Jr., of Essex, beginning with *Cricket* in 1850, calling at Shelter Island, Greenport and Sag Harbor. *Cricket* later ran to Norwich. *Island Belle,* new in 1851, next made the run across the Sound, succeeded by *Ella Boardman,* and *Mary Benton,* 365 tons built in 1861 followed by *Sunshine,* 427 tons in 1864.

Storm, a side-wheel freight boat, was rebuilt at Goodspeed's and was then known as *New Storm. Washington Irving* finished as a commuting steamboat out of Flushing. *Cricket* was scuttled for insurance money in Haverstraw bay and *Sunshine* ran through the '80's, being destroyed by fire at New Haven. *Sunshine* was commanded by Captain George W. Bates of Essex, followed by his brother Captain Hanson A. Bates of East Haddam. *Sunshine's* summer profits were always sufficient to permit extensive repairs by her captain each winter.

The old company running the New York boats met opposition in 1867 when the Norwich steamboats *Escort* and *W. W. Coit* ran against *Granite State.* A big Hartford-built engine was moved to Brooklyn by *Granite State,* and the pilot to save time cut across the end of Blackwell's Island for Greenpoint, striking a rock and tearing a hole in *Granite State* which was beached on Hunter's Point where it filled and sank. The steamer *James T. Brady* was chartered from the Learys and ran on the river in *Granite State's* place until the opposition was run off.

At the Civil War's close *Granite State* ran for a time on the Hudson. *Silver Star,* 276 tons, replaced *Washington Irving,* built by the Goodspeeds at East Haddam, the engine built by Fletcher Harrison & Company. During the Civil War *Silver Star* was a dispatch boat on the James River. George F. Tyler purchased *Silver Star* in 1883 to run on the Delaware River, when the name was changed to *Florence,* being lengthened at Wilmington before beginning the new run.

City of Hartford and *Granite State* made the important landings and *Silver Star* did the shallow water ports' business, connecting at Saybrook Point with the large boats for New York. *Sunshine* went down the river one day and up the next.

Buck's New York Steam Transportation Line operated the steam schooner *Sachem,* Captain William B. Trasher; *Uncas,* Captain E. Bates; *Seneca,* Captain Charles H. Chalker, carrying freight between Connecticut River and Old Slip, New York. Reuben Hunt was Hartford agent and J. & W. Briggs, 40 South Street were New York representatives. The steam schooners, *Josephine,* Captain J. H. Morrison, and *Rough and Ready,* Captain Grumley, ran to Philadelphia and Baltimore, M. M. Chapin, Hartford agent at 51 Ferry Street and Wm. M. Baird & Company, Philadelphia agents. *Mohawk,* Captain L. D. Clark, made Albany every 10 days, Henry French, Hartford agent, and E. A. Durant & Company, Albany agents.

The steam propeller *Albany,* Captain Evelyn White, left weekly, Z. Preston, 45 Commerce Street, Hartford agent, with Griffith & Buell, agents at Albany. *Dudley Buck,* built in 1862, and *Parthenian,* propellers, ran from Hartford to Albany in 1868 and '69. *Parthenian,* built in 1856, continued through the '70's, running through Raritan Canal to Philadelphia. When broken up the officers' quarters became a fisherman's hut at Saybrook ferry slip, and was long known as "Texas." *Ellen S. Terry* was built in 1857 by Harlan & Hollingsworth Company for O. G. Terry of Hartford,

a freight propeller, 146 feet length, 23.9 feet beam and 8.6 feet depth of hold, and ran between Hartford and Wilmington, Del.

Horace Johnson of Middle Haddam purchased the rebel blockade runner *Olive Branch* which had been captured in the Civil War. Woodruff & Beach, Hartford, built a new engine and *Olive Branch* became *Ceres,* and after being long tied up at Middle Haddam *Ceres* burned. *W. T. Truxton* carried grain to the Willard mill in Ferry Street, Hartford in 1866. *Middlesex,* Captain Edward May, was built at Portland in 1871; a freighter 124 feet length and carried brown stone from Portland quarries to New York in 1871 and '72, afterwards running between New York and Bangor, Me. *George H. Chaffee,* a freight boat, was built in Middletown in 1871. During the Civil War *Jersey Blue,* from the Delaware River, carried soldiers from Hartford to the South.

Captain Amos Clark was the early towboat magnate, whose tug *A. Clark* towed between Hartford and Saybrook. The Union Line for Boston operated the schooners *Earl,* Captain B. Crowell; *Juliet,* Captain Wilson Crosby, and *Eliza B.,* Captain Alvin Crosby, sailing weekly from Hartford on Wednesdays and from Boston Saturdays. J. M. Bunce was agent in Hartford and Lewis & Clapp, 18 Central Wharf, Boston representatives.

In the early '70's eight independently owned tugs operated on the river with M. R. Brazos, New York, as agent. This was highly competitive and uneconomical and Charles C. Goodrich, who had been employed by Brazos, organized the Hartford & New York Transportation Company in 1877. Its capital was $112,000, of which $77,000 was paid for five tugs. Captain Ezra Williams was president. The company secured a monopoly of river towing.

The Chapin & Burr Line operated the propeller freighters *Mars, Nevada* and *Susan* between Hartford and Philadelphia. *C. Comstock,* Captain R. Clark, carried ivory and ebony for the Essex piano key factories in 1880-82.

LATE UP-RIVER STEAMBOATS

Up-river freight boats ran between Hartford and Old Hadley and a steam tug and five floats covered Warehouse Point and Windsor Locks, and one boat ran to Windsor. In latter years J. Cooley & Company, with six boats and one steamer, and Parker Douglass & Company, with five flatboats and a towing steamer, controlled this traffic. The railroad continued to eat into earnings, but in 1851 an attempt was made to revive the dwindling business when

the Steamboating Company of Hartford was organized by M. W. Chapin, George Beach, Jr., and James Bolter as directors.

Fearing flatboats running between Hartford and Springfield would hurt the railroad, the railroad managers determined to eliminate water competition. The Steamboating Company made a deal with the railroad in 1851 and retired, and received title to the steamboat *Granite State.*

One of the last stern-wheel steamboats to run on the upper river was *Brownstone,* Captain Edward King. Going up-river, one trip, *Brownstone* went aground. Captain King looked over the side and then jumped overboard.

"She ought not to be aground here," he said; "it's knee deep."

Then he called to the Mate to put out a lantern. "What for?" inquired the Mate.

"What for?" repeated Captain King, "why some farmer might drive across here with a load of hay and might not see us if we had no light up."

A movement was started in 1871 to revive up-river steamboating and government aid was obtained to build wing dams between Hartford and Warehouse Point. The channel was deepened but steamboats did not come back to the route.

THE BUILDING OF *State of New York*

The Hartford & New York Steamboat Company in 1865 commissioned C. & R. Poillon, Greenpoint, Brooklyn, to build a new steamboat to be named *Vermont,* but christened *State of New York,* and made its first appearance in 1866, commanded by Captain D. A. Mills. Later Captain Peter Dibble, Captain William Miner, Captain Charles F. Buell were commanders and Captain Fred Beebe of Essex was the last skipper.

State of New York was the largest, handsomest and most costly steamboat to run on the river; a side wheeler, 1,417 tons; cost $200,000; 286 feet length, 43 feet beam, 65 feet over guards and 8.6 feet draught, with two boilers 30 by 11 feet consuming 60 tons of coal each trip. With 152 staterooms and 366 berths, 800 passengers were allowed. The cabins were decorated in white and gold leaf.

On the first down trip *State of New York* met an ovation at all landings. Invitations to inspect the new steamer were extended by William H. Goodspeed, general manager, and hundreds drove into the landing towns from the back country. President Elisha T.

Smith and directors smiled acknowledgements. Mr. Goodspeed was particularly proud. The new steamboat had been built under his direction. Guests rode down the river and returned by the up boat.

The steamboat managers were active in developing passenger traffic. Professor Dwight S. Babcock was encouraged to build a summer musical seminary at Upper Landing, East Haddam, with dormitory houses, class rooms, and a concert hall. Students were attracted from all over the country, and 100 pupils were recruited each summer.

Hotels were built to accommodate summer visitors. The old Lord residence which had been erected in 1785 at Upper Landing, East Haddam, had been opened as the Steamboat Hotel in 1831. George Douglas was proprietor and later, when the hotel had been enlarged, Captain James Selden ran it, followed by David Watrous. It was again enlarged and named Champion House after General Epaphroditus Champion, commander of an early Connecticut regiment and a member of Congress.

Ferdinand Ward of New York, one-time partner of General U. S. Grant, purchased the hotel and his brother-in-law, F. D. Green, ran it. Accommodations were provided for 60 guests and the house enjoyed a special vogue. Other hotels along the river were the Griswold, Union and Pettipaug at Essex, Gelston House at Goodspeed's, Bacon House at Lyme, Pease House at Saybrook Point, Fenwick Hall, Saybrook; Mansion House and Chaffee's at Middletown, all popular with summer visitors, while New Yorkers occupied summer homes along the river.

The Connecticut River valley was a railroad opportunity that many promoters had looked over. In 1869 meetings were held in river towns, inviting town subscriptions. The towns reversed their negative first votes and issued bonds, subscribing to shares of stock in the Connecticut Valley Railroad Company, proposed to connect Springfield and Hartford with the river towns, and to connect with the Shore Line Railroad at Saybrook. The company was chartered in 1868 with $1,200,000 capital and construction began in 1869.

First mortgage bonds of $1,000,000 were issued and later second mortgage bonds of $1,250,000, for construction proved costly. The road began to operate in 1871 but failed to pay. It hurt the steamboats. The railroad became involved and the stock ceased to have value when it was reorganized in 1880. A plague of malaria followed the building of the railroad, with the turning over of so much earth for the cuts and fills. The musical seminary closed

never to open again. Religious camp meetings at Tylerville were abandoned, summer visitors feared to come and until the scourge ran its course the whole region suffered.

State of New York had a hard luck career marked with costly accidents, though no lives were lost from these misadventures. When the Saybrook breakwater jetties were being built in 1872 a big stone rolled down into the channel and *State of New York* hit it. Arriving at New York it went into dry dock for examination and repair. This delayed the regular sailing Saturday night until Sunday noon. Avoiding a tow in Hell Gate *State of New York* struck Pot Rock and was beached at Hallett's Point. The stern was submerged, the 90 passengers were taken off and much freight salvaged. Captain Peter Cahill, a former wheelsman on *State of New York* under Captain Peter Dibble of Clinton, was owner of the salvaging tug and when the company resisted his $300 claim for towing freight to Hartford, brought suit, the case being tried in Middletown and decided in his favor.

When off Salmon River, above East Haddam, *State of New York* struck a snag, August 28, 1881, tearing out two planks and was beached across from Goodspeed's. The bow went on the banks but the stern settled in deep water. The expense of reconditioning was $40,000. *St. John's,* from the New York-Atlantic Highlands route, took its place on the run.

State of New York under Captain R. K. Miner met a serious accident coming out of Peck Slip, New York, in a strong ebb tide. Before straightening up in the stream the guards ran over Brooklyn docks, carrying one side of the deck house away and doing damage to wharves and dock houses. This accident is said to have cost $80,000. Again, when the name had been changed, the walking beam broke off Stamford. On another occasion the shaft broke near Paper Rock below Middletown.

State of New York was in collision with *City of Boston* of the Norwich Line, off Cornfield Point. *City of Boston* rolled one boiler overboard and a stack tumbled across *State of New York's* deck. Again, *State of New York* went ashore at Joshua's Rock, but got off by rigging a pole, long carried for the purpose but never before used. The Stonington Line chartered *State of New York* in 1880 and the Cornell Steamboat Company ran her to Rondout from May to December, 1883. Bad luck followed the old liner even after being broken up and the hull made into a coal barge, known as *Jimmy Hughes,* and it foundered in a bad storm off the Jersey beaches.

The disappointment, serious acccidents, high operating cost of

State of New York, the desperate condition of the company and impairment of his personal fortune contributed to the death of William H. Goodspeed in 1882. Thereafter, the Hartford & New York Steamboat Company went into receiver's hands. The company's property was sold at U. S. Marshal's sale at New London. *State of New York* was purchased by Daniel G. Spencer of Old Saybrook for the Hartford & Connecticut Valley Railroad Company for $50,000. The railroad also bought *Silver Star,* which it ran on the river route, also running up Salmon River to Moodus. The railroad saw an opportunity for through business to New York and *State of New York* became *City of Springfield,* then commanded by Captain Charles F. Buell of Clinton, who had previously been in *City of Hartford* as master. The railroad was chartered to run to Springfield, through Hartford from Saybrook, and it was in compliment to that city, still hoped to be the northern terminal, that the name was changed.

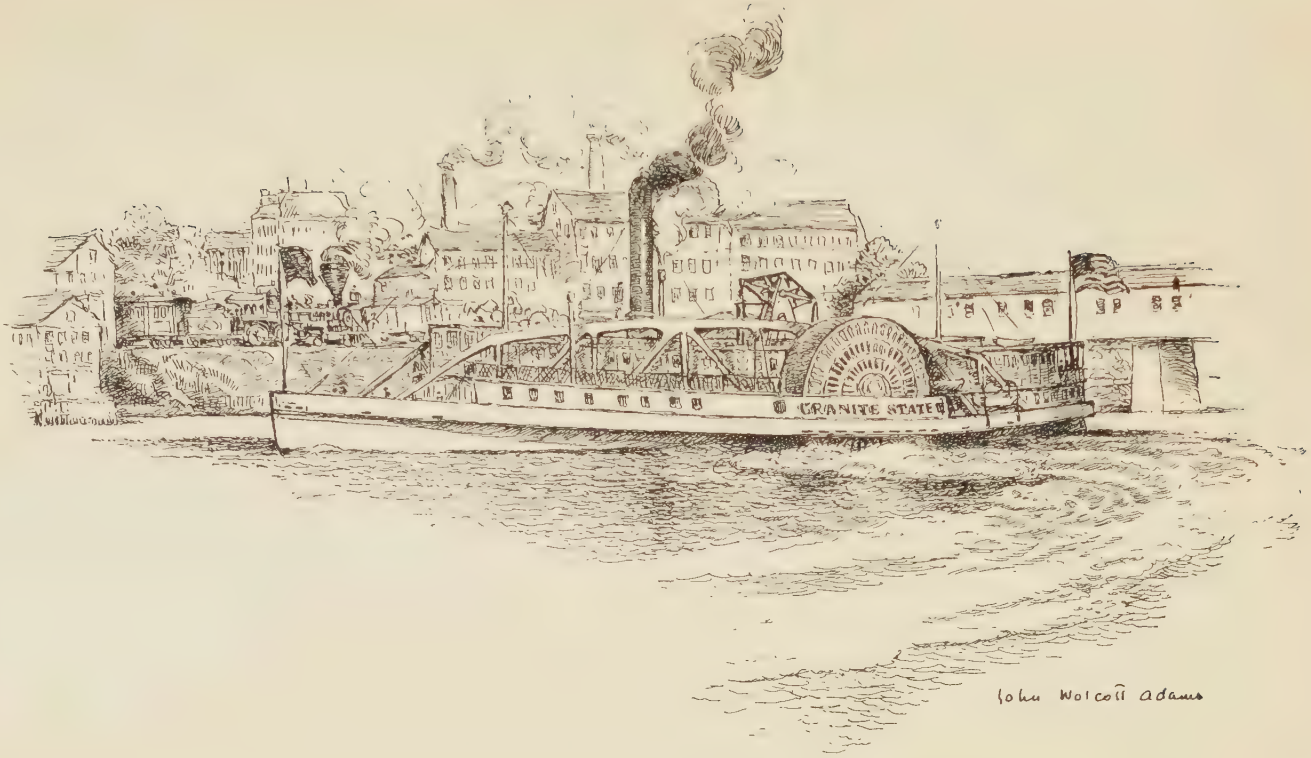
CARRYING AWAY THE MIDDLETOWN BRIDGE

On a down-river trip in a high freshet *City of Hartford,* Captain James Russell of Haddam, failed to make the opening of the Middletown drawbridge, March 29, 1876, and instead came crashing head on against the span to the westward of the draw, taking the span on the forward hog framing and lifting it from its piers, carrying it along rested crosswise on the big timbers. It was held that one of the white lights marking the draw opening was not lighted, and that a street light on the Middletown shore was mistaken for the third light, accounting for the steamboat being off its course. The railroad sued the steamboat owners and, after a long trial held at Haddam, the court decided that the railroad and steamboat owners should each bear the cost of their own damages. The Federal government then ordered all draw openings marked with red lights.

Granite State was discovered to be afire, off Goodspeed's, June, 1883. The flames spread fast. Three persons lost their lives. The hull floated down stream, becoming a total wreck beyond salvage, and was later towed to Lynde Cove, Old Saybrook, where the rotting hulk is still visible.

NEW OWNERS FOR THE NEW YORK LINE

The difficulties of river navigation at low water determined the managers of the Hartford, New Haven & New York Steamboat



Granite State coming to dock at Hartford on the Connecticut River

Company to quit the Connecticut River and henceforth it operated as the New Haven Line. The Valley Railroad abandoned its plan to operate connecting steamboats and was anxious to unload. It aided the Hartford & New York Transportation Company to purchase its boats on favorable terms. The new owners had limited capital and were in financial difficulty when *City of Springfield* broke the walking beam and needed costly repairs. *City of Lawrence,* chartered from the Norwich Line, ran on the river in 1884.

City of Hartford now became *Capital City.* This was because of Hartford's selection to be the single capital of Connecticut. On the evening of March 31st, under command of Captain James Russell, steaming under one bell in fog, *Capital City* went ashore at Parsons' Point, Rye Beach, and was a total loss.

The Connecticut Valley Railroad made another attempt to operate New York steamboats, chartering the excursion steamboat *Grand Republic,* an open deck boat without heating plant, which in the winter set up a stove in the pilot house, the smoke pipe sticking out of a window. *Columbia,* a sister boat in the Rockaway excursion business, chartered from R. Cornell White, filled in when *Capital City* was lost. *Columbia* was 270 feet length, 38 feet beam, 64 feet over guards, with engine having cylinder 66 inches diameter by 11 feet stroke, built by Quintard Iron Works, which had first been in the steamer *Santiago de Cuba.* Tim Warner, one of the river's best pilots, was in *Columbia* when it struck on Wethersfield Bar in a fog.

City of Richmond, built at Philadelphia in 1880 and running from New York to Atlantic Highlands with *St. John's,* was purchased by the Hartford & New York Transportation Company, who spent $75,000 in reconditioning. *City of Richmond,* commanded by Captain Fred Beebe, ran two seasons, when it took fire at Peck Slip pier, New York, and burned to the water's edge. The underwriters sold the wreck and it was rebuilt as *William G. Edgerton,* for the Starin excursion fleet, later being known as *Glen Island* and burning again off Sands Point in Long Island Sound.

City of Springfield covered the route alone following the burning of *City of Richmond,* while the company reorganized its finances and planned a new boat. Order was placed with Næfie & Levy S. & E. B. Company, Philadelphia, and in 1892 *Hartford,* Captain Edward May, a twin-screw propeller, came to the river. *Hartford,* with large freight capacity and sixty-five staterooms, was successful, and the company placed order with the same builders for a second boat, *Middletown,* which came on April 28, 1895. *Middletown* is

245 feet length, 45.6 feet beam, 14 feet depth of hold, with triple expansion engines of 1,000 horse power.

For two years *City of Springfield* was tied up at Dutch Point Shipyard, Hartford, and later dismantled by Aaron Segalla, the hull becoming a coal-carrying barge running between Norfolk and Boston.

Hartford was sold in the Spanish War, December, 1898, to the United States Army for transport service in Cuban waters and the name was changed to *General Terry*. At the end of the war *General Terry* was sold to the Barry-Muskegon Line on Lake Michigan and named *Charles H. Hackley,* being last *Carolina* and registered from Duluth, Minn.

While *Hartford* was in war service *City of Lawrence* was again chartered and ran with *Middletown*. Order was placed with the Baltimore Dry Dock & Shipbuilding Company for a new *Hartford,* distinguished by two stacks, but of *Middletown's* dimensions. The second *Hartford* arrived for its first trip October 27, 1899.

THE RAILROAD ABSORBS BOAT LINES

Most of the Long Island Sound steamboat lines competing with the New York, New Haven & Hartford Railroad Company were gathered into that system in 1894 and '95. The New Haven road was determined to own a Hartford line of steamboats and offered $250,000 for the Hatch & North Coal Company's dock at Hartford, the one piece of dock property at Hartford which the Hartford Line did not control. This dock was purchased by the Hartford & New York Transportation Company at this figure. The railroad next offered to purchase the Hartford Line and succeeded to ownership on the basis of exchange of stock, Hartford & New York Transportation Company shares being taken in at $80 (par value $25) against New Haven railroad shares at $200. New Haven shares were then selling for $190.

In the sense that it was never a part of the New Haven Railroad's Marine District, and was not later taken into the New England Navigation Company or the New England Steamship Company but was allowed to go its separate way, the Hartford Line has had control of its own affairs to a greater extent than any of the earlier absorbed marine properties. It was also permitted to continue its management, headed by the late Charles C. Goodrich and Robert J. Noble.

The Hartford & New York Transportation Company became the operator of the Maine Steamship Company, Portland route, which

the New Haven had taken over, making a successful showing, and it organized a fast freight line, New York to Boston, for which *Bunker Hill, Massachusetts* and *Old Colony* were built. Later it took over operation of the Joy Line to Providence, New Haven and Bridgeport and it now operates these services as the Bay State Line and Merchants' Line.

There have been sporadic efforts to establish day line steamers on the Connecticut River as in 1900, when H. B. Hale of East Hartford operated *Guide, Madeleine,* and *Bohemian,* boats which were not suited to the trade.

THE OLDEST LIVING LONG ISLAND SOUND PILOT

Captain George Parmelee, born in 1824, is the oldest living Sound pilot, recalling more steamboat history of the Connecticut River and Long Island Sound than any man alive, for he began to follow the sea as a lad, and he has lived more than 100 years, possessed of faculties and with a remarkable memory, which holds not only names, dates and places, but interesting anecdotes to make his recollections happy.

As a young man Captain Parmelee "went coastin'," as a foremast hand and cook. He began his sailoring job in a windjammer, a youth of 16 years, and began steamboating as quartermaster in 1860, and was next sound pilot, or second captain. So many years spent at a schooner's wheel, smelling his way through heavy fogs, and with eyes that burned through heavy mists, Captain Parmelee was one of the most fortunate Sound pilots to lay a course, a careful navigator who developed "time and courses" for Sound waters with remarkable accuracy. He could always find landmarks where they should be no matter how dark or foggy the night.

Captain Parmelee recalled *Great Eastern's* arrival in New York. "I was in *City of Hartford,* and passengers came aboard early. They wanted Captain Simpson to start an hour late, so they could go up North River and see *Great Eastern.* Sailing time was 4 o'clock from Peck Slip. The captain knew they would never be back at 5 o'clock, so he told them, 'You come aboard. We'll sail at 4 P.M. and I'll take a turn up North River and you can see her.'

"In those days we waited at Saybrook Bar for the tide before we could get over. A copper tank rode with the tide in the Saybrook freight office and a red light was hoisted if the tide was low, and a white light showed if there was water enough for us to come over the bar.

"As we came up to *Great Eastern* I heard one man say, 'She don't

seem to be so big!' I said to him, 'Look at that boat passing her.' It was one of the big North River steamboats. 'How does she look beside *Great Eastern?*' Then he realized how big she was."

When *Bunker Hill* was lost off Seal Rocks, Westbrook, Captain Parmelee was in Brooklyn with Captain Bill Arnold in the sloop *Emerald*. Brooklyn was then a New England city in character. Once when the stern-wheel tug *C. H. Dexter* was towing the schooner *Velocity,* attempt was made to pick up *Emerald,* but the schooner fouled the sloop and things began to crack and snap. Some one on the towboat shouted, "We must get out of this or we'll all go to Hell!" Captain Parmelee grabbed the wheel and said, "If we're going to Hell, I'll steer."

Captain George Parmelee recalled a trip made in Civil War times when Colt's Band of Hartford went to New York and played "Dixie." The next trip the captain found every one in New York streets whistling and singing the new air.

"We carried Connecticut regiments to New York in *City of Hartford* and brought back one—what there was left of it. I remember Elisha T. (E. T. Smith, President of the Hartford & New York Steamboat Company) sent *Silver Star* to Saybrook to meet *City of Hartford* and take off some of the soldiers. He feared they would be running about and would keep the boat rolling, and she was somewhat cranky, but *Silver Star* was not needed. The tired boys in blue camped on the upper deck and slept and slept and slept. They had done their part."

When *State of New York* made its first trip to Hartford in 1866 Captain Parmelee was wheelsman with Captain D. A. Mills and later Sound pilot, and he served with Captain Simpson, Captain William Miner, Captain Charles F. Buell, Captain Richard K. Miner and Captain Peter Dibble. When *City of Hartford* hit Middletown bridge Captain Parmelee was on *Granite State,* for *State of New York* was being overhauled.

Granite State broke a shaft while coming into Saybrook and *Traveller* filled in while repairs were made, but Captain Parmelee did not like her, for *Traveller* was leaky and then 25 years old. Wooden boats, when they grow old, become water logged and their draught increases and Captain Parmelee preferred newer steamboats.

"I was wheelsman of *State of New York* when it struck on Hell Gate rocks," said Captain Parmelee. "The pilot was making his last trip and I was to take her the next trip. A strong flood tide was running. We'd gotten by some barges, towing by a long line. Hell Gate channel was then toward the north shore and the tide ran like

a shot out of a gun. Getting by Pot Rock, a sunken rock in the channel around which the water swirled like a boiling pot, and to pass the tug, forced us on the rocks.

"*State of New York* struck just forward of the pilot house, and the Captain went down to see how fast water was making. When he came up he said to the pilot, who had just come from dinner, 'We've got to get her somewhere, for she is sinking by the head so fast her rudder will soon be out of water and we can't steer her.' So he beached her on Hallett's Point. If they had shut off and kept behind the tow it would have been all right, but I was only wheelsman and couldn't say anything, but I never ran through there under a full head of steam when there were tows ahead."

Captain Parmelee was in *Granite State* when it burned at Goodspeed's, making its way up river. Captain Parmelee had turned in at Saybrook and was awakened by the river pilot about 6 A.M. The fire was then under such headway that he had to jump and swim around the stern. One of the crew called, "Give us your hand, George!" but looking about him Captain Parmelee answered, "Hand up that woman first." Then it was seen that a woman passenger was clinging to a spile, unnoticed by any one, and too frightened to called for help.

The captain delighted in telling of a Middle Haddam man who sauntered down to the store for molasses and stopped to visit *Victory*. He crossed the gangplank and was afloat before he knew it, the lines having been taken aboard and the steamboat under way. "Never mind," the crew told him, "your passage to New York is only 12½ cents and you will get your molasses cheaper."

Captain William Miner was one of the famous captains of the Connecticut River. He was born at Saybrook and when a young man his father, Samuel W. Miner, built him a two-masted schooner called *Doretta Kann,* which coasted from the Connecticut River. Later Captain Miner built the tug *J. H. Billard,* towing between Hartford and Saybrook, and next he went in the big boats, being master of *Silver Star, Granite State, City of Hartford* and *State of New York.*

Captain Ruez Hills of Glastonbury had a remarkable career as a Connecticut River steamboat master, having commanded *Middletown* for twenty-four years. He began in coasting schooners and went decking in the tug *Admiral Farragut,* Captain Albert Anderson, of the Brazos Line. He next went to the Great Lakes and shipped aboard *Idaho, Empire State* and *Milwaukee.* Returning East, he served in the tug *Brazos* and commanded Colonel Samuel Colt's ferry

Coming into dock in the rain

Armsmere, connecting Colt's Armory and East Hartford until Colonel Colt's death in 1875 when the ferry service was abandoned. *Armsmere* was the first steam ferry on the river. *Union,* the former ferry on the Colt run, was propelled by a horse on a tread mill.

Captain Hills became quartermaster with Captain Frederick Beebe aboard *City of Springfield,* later pilot, and he succeeded Captain Edward May as master of *Middletown* two months after it came to the line, remaining twenty-four years and retiring in 1919. Captain Hills returned to his old command for a single trip in 1922, while his nephew, Captain William Hills, who had succeeded him, remained ashore. Thereafter he went back to his Glastonbury farm, quite content, and died in 1923.

Nicholas M. McLean had a long career as chief engineer of Connecticut River steamboats. He began steamboating in 1867 aboard *Granite State* and joined *James T. Brady* when *Granite State* went ashore that year at Blackwells Island. When *James T. Brady* went to South America Mr. McLean went along and remained for a year, running between Buenos Aires and Montevideo, when *James T. Brady* sank in Montevideo harbor. He had previously made a trip around the world, and to China in *Moyund,* a side-wheeler about 275 feet length, and he served on this steamboat when it ran between Shanghai and Hankow on the Yangtse Kiang River.

Mr. McLean spent nine years aboard *Silver Star* as chief engineer and was the only chief of *City of Springfield* in fourteen years bearing that name. Then for seventeen years he was chief aboard *Middletown,* retiring in 1913.

CHAPTER IX

NORWICH AND NEW LONDON STEAMBOATS

IN the quiet of a fall afternoon, October 15, 1816, the Norwich *Courier* bulletined:

> "2 o'clock P.M. We stop the press to announce the arrival at this port of the new Steam Boat, *Connecticut,* Captain E. S. Bunker—"

The editor sensed the importance of this stop-press news and in the century that has rolled by no better handling of momentous news has been suggested. The announcement meant much to Norwich, for *Connecticut* was the first of the great fleet of Long Island Sound steamboats.

Regular steamboat connection was established in the spring of 1817, when *Fulton* and *Connecticut* formed the line, with New London and New Haven as ports of call. The packet sloops began to lose patronage and importance, for while the big sloops were fast in fortunate wind, weather and tides, there were days of uncertainty and "a passenger for New York ran the risk of being a week on a voyage." The new line began with three weekly trips.

The Fulton-Livingston monopoly was strongly opposed and the Fulton boats were forced out of Connecticut ports. In 1824, when the monopoly had been knocked out, *Fulton* and *Connecticut* made New London, en route to Providence.

The Government's inquiry into the explosion of *John Hancock* in 1817 developed that the boiler was made of wood. Captain Elihu S. Bunker was appointed by the Collector of New York to investigate. Captain Bunker's report to the Treasury Department, Washington, pointed the facts to show his disgust. He said:

> "Gilbert Brewster, Esq., of Norwich, fancied he was in possession of a plan for building a steamboat that would prove superior to that then in use; and accordingly built a small boat, called *John Hancock,* into which he put a small engine and a wooden boiler.

"He prepared her for an excursion from Norwich to New London at the time that President Monroe visited that section. Fifty gentlemen went on board and they proceeded down the river from Norwich. They were all together, with the cook (a colored man) in the cabin, abaft the boiler, when, approaching New London, it was announced that *Fulton,* which had the president on board, was approaching.

"The gentlemen went on deck as fast as the gangway would permit them to move, the cook being the last at the foot of the stairs. When he was half way up the stairs, the end of the boiler was blown out, and his left leg was slightly scalded. The force was so great with which the end of the boiler flew that it swept everything before it—tables, chairs, the partition between the Ladies' and Gentlemen's cabin—all went out of the stern of the boat. In one minute more, if they had staid in the cabin, fifty-one would have been swept into eternity!"

Later, when *John Hancock* had been fitted with a suitable boiler, it ran on short routes out of Boston. Gilbert Brewster & Company were also builders of the famous *Eagle,* launched at Norwich, April 9, 1817, and intended for service between Norwich and New London, but left Norwich for Providence, May 17th, and from May to September, 1818, *Eagle* connected Nantucket and New Bedford, but the sail packets continued favorite, and *Eagle* moved on to Boston waters for a long career. *Eagle* was 92 feet length, 17.8 feet beam, 6.8 feet depth of hold, and had a crude form of overhead beam engine, the beam being a heavy timber. *Eagle* had a copper boiler and burned wood.

Long Branch connected Norwich and New York in 1821 and in 1822 *Henry Eckford* came to the route. *New London* and *Fanny* served in 1824 and *Experiment* in 1825.

Captain W. W. Coit, who had operated *Ann Maria,* one of the fastest sail packets, began steamboating in 1820. He commanded *General Jackson* in 1832, a small steamer running between New London and Norwich and New York, continuing until 1835, when *General Jackson* went back to the Hudson River. Captain Coit brought out *Norwich* in 1836, *Huntress,* 1838, and *Worcester,* 1842, each of which he commanded in turn, and he was connected with steamboat building at Mystic and in the operation of the Gloucester, Mass., and Greenport, N. Y., steamboats. The high place occupied

General Jackson, with cross-head engine, an early steamboat of the Norwich Line

by Sound liners throughout steamboat history is largely due to Captain Coit's example. He built many steamboats.

Huntress later went to Maine waters. *Charter Oak* from the Hartford line came on in 1841 and *Cleopatra* from the Connecticut River in 1842 and *Newhaven* was added in 1843.

Perhaps the most notable of early steamboats was *Norwich,* built for the New York & Norwich Steamboat Company by Lawrence & Sneden, New York, in 1836. *Norwich* ran on the Thames route for fifteen years and was then cut down for a Hudson River towboat, running sixty-five years between New York and Rondout. In eighty years' service *Norwich* kept alive traditions of early steamboating and the cross-head type engine. *Norwich* was 160 feet length, 25.3 feet beam and 9 feet depth of hold. Cunningham & Hall built the engine, having cylinder 40 inches diameter by 10 feet stroke, without walking beam, a gallows frame supporting the guides. One boiler was located in the hold, which was replaced several times. Originally *Norwich* was 346 tons, but when the deck houses were removed was rated 255 tons.

Commodore Vanderbilt's *Water Witch,* from the Hudson and Connecticut Rivers, ran between Norwich and New Haven in the late '30's. *Flushing* connected at Lyme for New London and Norwich in 1840 and Captain Memnemon Sanford took *Charter Oak* from Norwich to run in Maine waters.

The Connecticut River liners to New York undertook to divide Norwich and New London business, running *Clifton* in connection in 1837, and they also solicited Norwich business by stages from Ely's Ferry on the Connecticut River. As a retaliatory measure the Norwich Line stopped its boats at Saybrook and ran *Thorn* on the Connecticut River in connection. *Clifton* and *Thorn* were about 75 feet length. They next ran out of Boston and *Thorn* became a towboat. While towing log rafts on the Hudson the little *Thorn* burned at the mouth of Rondout Creek, May 26, 1858. *Clifton,* then running to Wappinger's Falls on the Hudson, also burned.

Atlantic, Captain Dustin, was built in 1846, launched in May for the Norwich & Worcester Railroad, and cost $150,000. *Atlantic* was built by Bishop & Simonson, New York, and T. F. Secor & Company built the engine, having cylinder 72 inches diameter by 11 feet stroke, and the boilers were on the guards. When *Atlantic* came out it was the largest and finest steamboat to run in the Sound, with elegant saloons and staterooms, and the first steamboat to be illuminated with gas. Trips began August 18th, 1846, but *Atlantic's* career was short, for November 27th it was blown ashore at Fisher's

Island and wrecked, a total loss, and fifty persons lost their lives. The bell mounted on the top of the deck house became detached and floated about for days, tolling mournfully. A poem, "The Bell of the *Atlantic*," was a morbid favorite of the early school readers.

The steamboats of the Norwich Line in 1846 were *Worcester, Cleopatra, Knickerbocker* and *Mohegan,* the latter a spare boat. *Cleopatra* was a Vanderbilt boat from the Connecticut and *Knickerbocker* a Daniel Drew boat from the Hudson River.

The Norwich & New London Steamboat Company was organized in 1848 with $200,000 capital. Henry B. Norton was the first president. The line ran in connection with the Norwich & Worcester Railroad, the terminus being Allyn's Point. The company operated *Worcester, Connecticut* (second) in 1850 and in 1855 *Commonwealth. Connecticut* was built for the Peck family and was the fastest steamboat of its day, and ran between New Haven and New York before coming to the Norwich Line, and later on the Hudson to Albany and Troy. The company also operated the propellers *Charles Osgood, Shetucket, Decatur* and *Quinnebaug.*

Cleopatra next ran between Norwich and Providence and latterly between Allyn's Point and Greenport. *Lawrence,* built to run on the Merrimac River, was serving Norwich and New London in 1848 and may have continued for some years, for it did not return to Boston waters until 1855. *Cricket,* Captain Joy Post, ran between Norwich and Connecticut River landings in 1851.

The building of *Commonwealth* in 1854 by the Norwich & New London Steamboat Company marked its high point. Lawrence & Foulkes, New York, were builders. *Commonwealth* measured 316 feet length, 42 feet beam, 77 feet over guards and 8.4 feet depth of hold. Morgan Iron Works, New York, built the engine with cylinder 56 inches diameter by 12 feet stroke, turning nineteen revolutions. There were two iron boilers and the wheels were 38 feet diameter with 28 buckets.

Commonwealth was the great steamboat of Long Island Sound in the '50's. It went to the Stonington line in 1859. *C. Vanderbilt* came to the Norwich Line in 1860. The same year the Norwich & New London Steamboat Company discontinued operations, sold its equipment, and wound up its affairs. For a time *Commonwealth* ran to Groton, where the rail lines had been extended from Providence, burning at the dock in Groton, December, 1865. The propellers *Osgood, Shetucket, Decatur* and *Quinnebaug* were sold to William M. Converse, who chartered them to the Government and they continued in service throughout the Civil War. Some of them were in

the Burnside expedition, while *Osgood* went to New Orleans, participating in the Ship Channel expedition. *Worcester* was sold in Cuba and became a cattle boat running between Cuba and Gulf ports, making but few trips when wrecked in a northeaster.

Commonwealth was the great steamboat of Long Island Sound in the fifties

Tiger Lily and *Water Lily,* two small steamboats built in 1855, came from the Harlem River to run between Norwich, New London, Mystic and Westerly, then without railroad connection. *Tiger Lily* was commanded by Captain George Eldridge. They were shallow water boats, carrying passengers and freight, and their trips were extended to Watch Hill, where a hotel and boarding houses had been

built by the natives. Both boats served in the Civil War. *Tiger Lily* dropped the second part of the name, and when known as *Tiger* a crouching beast of the jungle was painted on the sides. *Tiger* burned and *Water Lily* was purchased by the Hudson River ice companies. The engine and boiler were removed, and the cross paddle shaft connected to a long bar, with cross members. The ice harvesters, fifty or more of them, grabbed at the cross arms, pushing them forward, and under hand power *Water Lily* took the workers home at five miles an hour. Seeley Powley, ice king and boss, sat in the stern and steered with a fancy tiller.

Tiger Lily and *Water Lily* attracted opposition and *Massasoit,* Captain Frank Wells, was brought around from Providence, making a few trips by the inside route in the summer of 1867 or '68, until accidentally sunk, striking a rock when entering Watch Hill. *Sunshine* ran for a short time under New London management, but went back to the Connecticut River. *Chicopee, Golden Gate, Panamac, Skipjack* and *Ulysses* plied between Norwich, New London, Mystic and Stonington, before Stonington and Groton were connected by rail. The railroad had reached down from Boston to Stonington, and the New York line had pushed east to New London, but it was not until 1857-58 that the New London and Stonington link was completed. Meanwhile small steamboats connected. Mystic was early called Parker's Ferry. *Dashing Wave,* owned by Ira H. Palmer, connected Stonington and Watch Hill in the late '60's.

Charles Osgood and *Osceola,* propellers, formed an opposition line out of Norwich, New London and New York in 1858.

The Norwich & New York Transportation Company was organized in 1860 with $350,000 capital. Captain Joseph J. Comstock of New York was its first president, succeeded in 1863 by David Smith of Norwich. Augustus Brewster was treasurer and P. St. M. Andrews secretary. The company was formed to supply a connection for the Norwich & Worcester Railroad, the steamboat company being promoted by Augustus Brewster, who was president of the railroad, and who managed the steamboat line until 1866 when he retired.

Service was begun with *Commodore, C. Vanderbilt* and *Connecticut,* fast boats from other routes. The new company commissioned Charles W. Copeland to design two modern steamboats, which were laid down in 1861 and built by Sneden & Rowland, New York. They were 300 feet length, 40 feet beam, 12.4 feet depth of hold, 8.3 feet draught and measured 1,591 tons. Novelty

Iron Works built the engines, with cylinder 80 inches diameter by 12 feet stroke, rated 1,800 horse power at 20 revolutions. The wheels were 37.8 feet diameter.

City of Boston came out in 1861 and *City of New York* the year following. J. Scott Russell, famous English naval architect and designer of *Great Eastern* called them "remarkable specimens of American naval architecture." They were acknowledged to be the finest vessels of their class. The hulls were built of white oak and the frames strapped with diagonal and double-laid iron braces. *City of Boston* made its quickest trip, New York to New London, 120 miles in 6 hours and 5 minutes. *Commonwealth* made a trip from foot of Cortlandt Street, New York, to New London in 6 hours and 10 minutes. These records were not beaten until *City of Lowell* came on years after.

City of Norwich, built by John Englis & Son, Brooklyn, made its first trip July 19, 1862, and was 200 feet length, 36 feet beam and 12 feet depth of hold, measuring 900 tons. Allaire Works built the engine, having cylinder 54 inches diameter by 11 feet stroke. Upon completion *City of Norwich* was chartered to the Government and paid its cost three times over in Civil War service. *City of Norwich* had the largest freight capacity of any steamboat in Government service, except sea-going craft, and transported a full field battery of artillery, men, horses, provisions and ammunition for McClellan's Army from the James River to Yorktown. *City of Norwich* was sunk by collision with a schooner April, 1866, off Lloyd's Harbor in 96 feet of water and 35 persons drowned. *Commodore* filled in until *City of Lawrence* was delivered the next year.

New London, a propeller, made a few trips, but was taken into Government service and made into a gunboat, assigned to duty in the Gulf of Mexico, commanded by Captain Warrington D. Roath of Norwich.

MYSTIC'S BUSY SHIPYARDS

Escort and *W. W. Coit* were interesting steamboats built by George Greenman & Company of Mystic. *Escort* was 675 tons, 185 feet length, 28 feet beam and 9.6 feet depth of hold, completed in 1862 and *W. W. Coit* was built at the same yard in 1864. *W. W. Coit* measured 484 tons, 172 feet length, 26 feet beam and 9 feet depth of hold. Other side-wheel steamers built at the Greenman yard were *San Juan,* 1862; *Ann Maria,* 1864; *Rafaeil,* 1863; *Fountain,* 1864 and *City Point,* 1864. *Liberty* had been built at the yard

in 1855 and *George R. Kelsey* in 1878. *Ann Maria* went to the Central American Transit Company in 1865.

The Greenman yard also built the propellers *Florida,* twin screw, 1842; *Albatross,* 1858; *New London,* 1859; *Blackstone,* 1861; *Thames,* 1862; *Oriole,* 1862; *Delaware,* 1862; *Constitution,* 1863; *Weybossett,* 1863; *Montauk,* 1863, and *Idaho,* 1864. During the Civil War Maxson Fish & Company built two gunboats for the Government, *Galena,* an iron hulled ship, and *Vicksburg,* and, for private enterprise, *Nightingale.* Mystic yards were busy in 1869, building 20 gunboats in four yards for the Spanish Government, being single deck propellers. E. J. Nightingale of the Providence engine building firm, Corliss & Nightingale, built *Weybossett* and *Nightingale,* owning a half-interest in each with Mystic associates. Corliss was displeased with his partner's vessel enterprises and the partnership was dissolved. *Weybossett* later became a barkentine.

Albatross ran on the Merchants' Line, a freight service out of Boston in the '60's and '70's with *Osprey, Pelican* and others named for sea birds. They were about as large as outside tugs with black hulls and buff deckhouses and "graceful as a sea elephant." A writer recalling them says, "It seems to me they were a bit wider than they were long, but probably that is not correct."

The Naval Records and Library, Washington, show that *W. W. Coit* was taken into the Civil War service in 1864 and is recorded as a steamer, later as a dispatch boat, carrying General Gilmore to Charleston. The date is given, February 18, 1865, and it is said to have been *W. W. Coit's* ensign that was mastheaded on Fort Sumter, the first Union flag to go up after the surrender.

With the conclusion of the war *Escort* and *W. W. Coit* ran as the Independent Line, Norwich, New London and New York. *W. W. Coit* was commanded by Captain Erastus Fish of Noank. When the opposition broke down *Escort* and *W. W. Coit* ran wildcat on the Connecticut River, New York to Hartford, 1867, but could not stand against the established line, and went to the Delaware River, carrying peaches. Both steamboats ran from Boston to Gloucester, 1871, and *W. W. Coit* then began a long career, Greenport to New York under Captain George C. Gibbs, disappearing from the registry in 1886.

Escort was purchased by Captain Black and associates and brought to Catskill on the Hudson under tow of *Utica,* June, 1873, and was overhauled and ran as a milk boat until 1883 when its name was changed to *Catskill,* continuing until 1897 when run down off the foot of West 34th Street by *St. John.* One man and a boy were lost.

Being raised and rebuilt *Catskill* now came out as *City of Hudson,* lengthened to 226 feet, continuing to run until 1913 when broken up at Port Ewen and the old timbers consumed in the oven fires of the brickyards.

BURNING OF *City of New London*

City of New London, 15 feet longer than *City of Norwich* and also built by John Englis & Son, Brooklyn, came to the Norwich Line May 22, 1863. *City of New London* is remembered for the disastrous fire, November 23, 1871, when 17 persons were lost, being on its way to Norwich and fog bound off Montville. The cook had carelessly laid a red hot poker on the wood work and in a short time the galley was ablaze. By hard work the crew subdued the fire and, the fog lifting, the steamer started, but when off Poquetanuck fire was again discovered in bales of cotton. The vessel was then a roaring furnace. The engine was stopped and the steamer drifted on Walden's Island, being run ashore by Captain William R. Brown when he realized there was no chance of saving the ship. Mrs. Priscilla Adams, one of the two women survivors, celebrated her 90th birthday in 1923.

The Norwich & New York Transportation Company commissioned Harlan & Hollingsworth Company, Wilmington, to build *City of Lawrence,* one of the first iron-hulled steamboats in the Sound, which arrived in March, 1867, under command of Captain William Wilcox. *City of Lawrence* measured 235 feet length, 40 feet beam, 12 feet depth of hold and 7.6 feet draught at full load, registered 1,400 tons. The engine had cylinder 65 inches diameter by 11 feet stroke. *City of Lawrence* ran many years on the Norwich Line, and when more than 40 years old was wrecked at Eastern Point, New London harbor, July 2, 1907, hitting an uncharted rock, then a day excursion boat in the Block Island service.

Falmouth was chartered to run with *City of Lawrence* on the regular line while *City of Boston* and *City of New York* made the Dollar Line between Boston and New York via Allyn's Point.

City of Worcester was built in 1881 by Harlan & Hollingsworth Company, an iron side-wheeler, 340 feet length, 46 feet beam and 80 feet over guards; 14.6 feet depth of hold, and the hull was divided by six water-tight bulkheads. The engine was vertical beam, surface condensing type with cylinder 96 inches diameter by 12 feet stroke, rated 2,500 horse power. Three boilers were located in the hold, having 9,300 square feet heating surface and 550 square feet

of grate. Wheels were 38 feet diameter and the registry 2,489 tons.

City of Worcester was launched March 12, 1881, and began to run in September. Worcester citizens took great pride in the vessel named for the city and joined with Norwich and New London in making a great celebration of its coming to the line. The Norwich & Worcester Railroad was largely owned in Worcester and the "Belle of the Sound" was the great achievement of the railroad and steamboat companies. *City of Worcester* carried 700 passengers and 110 tons of freight. The interior decorations were expensive, the saloons being finished in hard woods of all kinds, and much was inlaid, and this was the second steamer to have electric lights. The draught was 18 inches more than the plans called for, which made *City of Worcester* slower than *City of Boston* and the old *Connecticut.*

On one trip *City of Worcester* carried a delegation of Zuni Indians, who came East once in a hundred years to obtain water from the Atlantic off the Massachusetts coast for use in religious services. The Zuni delegates were fascinated with the fire room and were shown how steam is generated and electric current made by dynamos. Upon their return to New Mexico, and when asked what had been the most interesting exhibit seen on their pilgrimage they all exclaimed *"City of Worcester."*

The Boston, Hartford & Erie Railroad sought a New York connection. It leased the Norwich & Worcester Railroad, and the closely allied Norwich & New York Transportation Company. The railroad next became the New York and New England Railroad and it was under this leasehold and management that *City of Lowell* was built in 1894, the "greyhound of the Sound." *City of Lowell* was built at Bath Iron Works, and is 322 feet length, 49.7 feet beam, 17.7 feet depth of hold, and the twin screw engines are rated 4,500 horse power. *City of Lowell* raced with *Richard Peck* and there was much rivalry between the two. *City of Lowell* ran Sunday excursions on the Hudson to Poughkeepsie for many years.

THE FREIGHT BOATS

In addition to the passenger and freight liners, many freighters operated successfully on the Thames. The Norwich & New York Propeller Company commenced freighting with *Delaware* in 1890, making one weekly trip at the start, and then two trips, but could not be conditioned for three weekly trips and was replaced by *Chelsea,* built by Pusey & Jones, Wilmington, for South American

service, but was not accepted. *Chelsea* was the most successful boat to compete with the Norwich Line, being locally owned and managed. It burned at Jersey City. Other freighters in this service have been *J. N. Harris, Yuma, Thames, Cape Cod, Postmaster General* and *John M. Worth,* while for a time the Wilson Line ran *Major L'Enfant.*

Mohawk and *Mohegan,* big freighters, built at Chester, Pa., in 1896, ran in connection with the Central Vermont Railroad, being 265 feet length, 43 feet beam and 16.8 feet depth of hold. Later they were purchased by the New England Steamship Company. Before them had been *Bolivar* and *Metropolitan,* ex *Nupha.* The Central Vermont Railroad, when its freight steamer connection was purchased by the New Haven Railroad interests, built the sister freighters, *New York* and *New London* in 1909, being 278 feet length, 44 feet beam and 19 feet depth of hold, with engines rated 2,000 horse power, built by Harlan & Hollingsworth Company, Wilmington.

THE EXCURSION FLEET

From Gilbert Brewster's day of *Hancock* and *Eagle* steamboats have catered for excursion business, making the Thames and Pawcatuck Rivers and near-by Sound picturesque.

Elijah A. Bill, a Norwich merchant, ship chandler and banker, became an early dredging contractor for the Government. He bought *Favorite,* a small propeller from Bristol, as a tender and used it in the excursion business. *Favorite* ran to Fishers Island and Stonington two seasons, commanded by Captain Alfred Lovell, and later by Captain Joe Reynolds when he quit the New York night boats.

Fanny was another of the Bill steamboats, later well known in Boston harbor, and as a commuting steamboat from Oyster Bay to New York. Captain Jacob Tremper bought *Fanny* for the Hudson, the first of many steamboats to be owned by him, and James Baird painted a picture of *Fanny,* one of his best canvases.

Captain Joseph Lovell commanded *Angelina,* named for Mrs. Bill and that good lady was periodically shocked when, at commissioning time, the Norwich *Bulletin* would head its maritime intelligence for the day, "*Angelina* has her bottom scraped." Captain Thomas Comstock later commanded *Angelina.*

George R. Kelsey, built by the Rafferty family at Mystic, was a favorite steamer connecting Block Island previous to 1880, named

for George R. Kelsey of North Haven, Conn., part owner, later becoming *Margaret,* being rebuilt by the Plant Line to run winters on the west coast of Florida between Apalachicola and Carrabelle. *Margaret* was lost in a storm at Lynn Haven Light, going on the beach.

Palmer Smith began his steamboat career with *Belle,* running to Westerly, Watch Hill and Stonington. *Belle* was followed by *Martha* and *Granite City* in the late '80's. *Ella* had been built at Mystic, a sister to *Escort,* and was running in Maine when Palmer Smith purchased *Ella,* then commanded by Captain Constance F. Foote who brought *Ella* to the Sound and continued master all the years *Ella* ran between Norwich and Watch Hill.

James Walker purchased *Ella.* He owned a hotel on Fishers Island and *Ella* made stops there. Later *Ella* made one trip weekly to Block Island, but the power and speed were insufficient for the long ocean run. The demonstration interested the managers of the New London Northern Railroad and George W. Bentley, the road's superintendent, organized a company which built *Block Island.*

The Block Island boom was started by the Norwich Line which placed Block Island tickets on sale throughout the West and South, Washington, D. C., being one of the best points for patrons. The island blossomed big hotels. The Fall River Line entered the competition, with Newport connection, and next the Long Island Railroad ran Block Island boats from New York and from Sag Harbor.

The old *Ella* wore out in service and during the season of 1903 blew a steam chimney off Ram Island, and was towed to New London but was never reconditioned, being sold to Montgomery of Athens, N. Y., and towed there by *Chelsea,* but was cut down by river ice, a complete loss.

Edith Peck, a propeller, and *Reuben Potter,* side wheeler, were rivals for business out of Stonington for Watch Hill in the '70's. *Edith Peck* was trim, handsome and reliable, while *Reuben Potter* was shaped like a squash bug, almost as wide as long, wheezy and unreliable. The two steamers berthed at opposite sides of the Stonington wharf, awaiting arrival of trains bringing passengers for Watch Hill. The owners were their own runners.

Harris Pendleton, long and lanky, an Abe Lincoln type, owned *Reuben Potter. Edith Peck* was owned by Captain J. S. Ripley of Haverstraw, N. Y. *Edith Peck* got the most passengers for good looks and fine reputation. *Reuben Potter* frequently broke down just south of Stonington Point, where it anchored while repairs were made.

Came a tenth of August, the great anniversary of Stonington, with a celebration. Soliciting passengers being dull business on the wharf, Harris Pendleton said to a friend, "Come up to the celebration. Nate Noyes of Westerly is going to speak and he's the best orator we ever raised in Stonington. He'll have something to say worth while." Pendleton joined the throng just as Noyes was apostrophizing Stonington.

"Behold her!" said the orator, spreading his arms in turn to the four cardinal compass points, "bounded on the north by the red barn, on the east by Wequetoquock, on the west by Quiambaug, on the south by the *Reuben Potter.*"

Pendleton, who had come to hear Stonington's greatest orator, snorted with disgust. "That's the worst rot I ever heard. Let's get out of here," he said.

Captain Ripley also owned *Mystic,* running on the same route, followed by *Watch Hill,* a single deck propeller, which ran from the '80's up to recent times. *Watch Hill* was owned by H. Hobart Babcock of Westerly and later by J. Irving Maxson and was changed to gas power in 1918. Latterly, only the tug *Westerly* churned the Pawcatuck River, once lively with many steamboat arrivals.

Captain Avery C. Smith, son of Palmer Smith, owned *Osprey* and *Norwich,* running to near-by beaches, and *Margaret,* which ran from Norwich to Watch Hill. He built *Yantic* and *Shetucket,* twin screw motor ferries, carrying 400 passengers, making five trips daily between Norwich and New London. Their pilot houses were flush with the deck and the helmsman could hardly see over the passengers and the bow. *Margaret* (second of the name) had an iron hull, and was built in 1904 to run between Norwich and Watch Hill, going to Mexico, being renamed *Tlacataplam.*

The latter day fleet of small excursion steamers running out of New London harbor included *Golden Gate, S. B. Camp, Gypsy, Osprey, Cygnet, Cecile, Niantic, Nelseco* and *Munnatawket.*

OLD-TIME STEAMBOAT GENTRY

The Norwich Line numbered many famous steamboat captains of the Sound, gentry distinguished by silk hats and long coats, for it was not until 1874 when Charles P. Clark headed the railroad, that Sound line officers began to wear uniforms. Captain Jerome W. Williams of *Knickerbocker,* Captain William Wilcox of *Cleopatra,*

Captain Edmund D. Roath of *Worcester,* favorites of the '40's, always wore silk hats in the pilot house.

Captain Jerome W. Williams had *Commonwealth* in the late '50's, remaining until it burned. Captain Van Pelt brought *Knickerbocker* from the Hudson and remained in eastern waters for a time. Captain William W. Wilcox, an able navigator, was master of *Connecticut* (second) when it ran in the Sound, and he brought out *City of Boston,* remaining until *City of Lawrence* was commissioned.

Captain Williams succeeded to *City of Boston,* resigning in 1874, and Captain Burwell Sturges came out on *City of Norwich* and Captain Leonard Smith on *City of New London.* Captain Jewett came from the Fall River Line to take *City of New York.* Captain Henry Ladd succeeded Captain Wilcox, and Captain Joseph Reynolds succeeded him. Captain Henry C. Lamphere came from the Stonington Line to be the second master of *City of Lawrence.* He was the winner of fat men's races and a jovial ship master. Captain Lamphere was first to command *City of Worcester,* succeeded by Captain William D. Ward and he by Captain Cleveland D. Geer, who later was first master of *City of Lowell* followed by Captain Richard Miner.

Captain George C. Crocker retired from steamboating October, 1922, after holding pilot's and master's papers 50 years. He first went to sea in 1861 in the coal-carrying sloop *Van Buren,* Captain Alonzo Lewis, and then in the packet *Argo,* running to Norwich from New York. When he was 15 years of age, in 1862, the frigate *Sabine* came into New London harbor and young Crocker joined on. For a year *Sabine* cruised between the Azores and Cape of Good Hope seeking the Confederate commerce raider *Alabama.* He also served in *North Carolina, Vermont, Adella* and the gunboat *Little Ada.*

He was lookout in *City of Norwich* when it sank off Huntington, April 11, 1866, being run down by the schooner *General S. Van Vleet* of New Haven in fog. *City of Norwich* sank in seven minutes. Of the 20 men in the crew 16 were lost, the passengers being rescued by the Providence liner *Electra.* Captain Crocker received a commemorative medal for his part in saving lives of women passengers.

After several trips in sailing ships Captain Crocker joined *City of Lawrence* and was 12 years wheelsman and seven years pilot, his license being first issued May 13, 1872. Following he served in *City of New London, City of Boston, City of New York, Hero, James T.*

Brady, Commodore, Montauk, Wyandotte, Storm King, Plymouth Rock, Block Island, Doris, Day Star, Falmouth, Granite State, Favorite, Richard Borden, Squantum and *Bay Queen.*

Captain Crocker was a Block Island pilot for 21 years, 1884-1905, the first 11 years running out of Norwich and New London and then for 10 years out of Providence in *Mount Hope* and *Warwick.* During his time steamboats landed in Block Island's old, or outer, harbor. He was master of the freighter *Delaware,* of the brig-rigged steamer *Tillie,* and *Block Island,* and for 11 years was master of *Metropolitan* of the Central Vermont Line. He quit steamboating when master of *Cape Cod.*

Captain John E. Woodward, 85 years of age and happy in his memories of early steamboating, obtained his captaincy in the Army, fighting through the Civil War. For 40 years he was a steamboat purser, the second oldest Sound purser alive in 1923, beginning in the days of Henry B. Norton's presidency of the Norwich Line.

"My earliest recollection," says Captain Woodward, "is of two young men, Adams and Harndon, loaded down with carpet bags and many packages, swinging off the Boston train and onto the New York boat, or leaving the boat to catch the train, dragging their bundles. Adams used the Boston & Albany (then the Boston & Worcester Railroad) to Worcester, the Norwich & Worcester and the boat from Norwich three days a week, returning alternate days, and Harndon we saw on opposite days. They were messengers doing errands and making deliveries in Boston and New York for merchants and others.

"They were unusual personalities, for I was but four years old at the time, 1842, and yet the impression of them is clear with me now. They carried themselves with an air; they were of the big city and represented travel, romance and adventure. When the Allyn's Point extension of the railroad was made Harndon changed to the Stonington Line and Adams was joined by William B. Dinsmore. Their business increased, other messengers were put on and offices opened in New York and Boston.

"This was the beginning of the Adams Express Company. There are but few persons now alive that saw these two men in the starting of a business that came to extend all over the world. In after years I came to know them very well."

Pursers and freight clerks occupied high place in the steamboat world, and in the early days they, too, were top-hatted and frock-coated as the vessel commanders. Morris W. Bacon, honored in the Norwich Line, held to his silk tile long after steamboat officers had

been put in uniforms. He had joined the line before the coming of *Commonwealth* and was a watch-maker by profession. Robert Coit, George W. Geer, Thomas Kingston, Jerry Thompson and Sidney Hart were early executives of accounts aboard ship, and later came Walter F. Parker, Washington W. Hedge, Frederick Dennison, John E. Woodward, Asa N. Porter, George W. Crofton, W. F. Woodward, Fred A. Burns, Frank Roath, Elmer Parker and William Barker.

Peter Hunt and Sam W. Waldrub were pursers of the Stonington Line in Jim Fisk's time and great favorites with travelers, as was John Ward of the Fall River Line. Walter F. Parker, long purser of *City of Lawrence,* became manager of the Iron Steamboat Company, New York.

CHAPTER X

Steamboating on Providence River and Narragansett Bay

"LIGE is gettin' up suthin' sum'eres," Providence neighbors said of Elijah Ormsbee's pioneer steamboat effort on Winsor's Cove, in 1792, an atmospheric engine driving duck's foot paddles. Ormsbee's *Experiment* was a yawl from the ship *Abigail;* its engine crude, the boiler a copper still of 150 gallons capacity, and the drive was visionary. An untried drive was of side- or flutter-wheel type. Ormsbee's experiment marks Providence River one of the first steamboat waterways.

Firefly, Captain Smith, introduced Fulton steamboats, arriving at Newport from New York, May 26, 1817, in 28 hours. *Firefly* was slow and without accommodations, and unable to hold its own against the fast sailing sloops, popular for well-cooked meals. The sail packets charged $10 fare and meeting fair winds made the trip in 18 hours or less, challenging *Firefly,* and their agents crowded the wharves offering passage at 25 cents, and to return fares if the sloops did not land their passengers before *Firefly's* arrival. The sloops carried from 20 to 30 passengers.

Firefly took Governor Knight, U. S. Marshal Dexter and a party to Newport to escort President Monroe to Providence, June 28, 1817, where the President began a horseback journey to Boston. After four months *Firefly* was run off.

The second visit of Fulton-Livingston steamboats was an excursion by *Fulton* to Providence in 1821. The party numbered 80, including John Quincy Adams, Secretary of State, and a band. Rhode Islanders enthusiastically welcomed the visitors. Running time New York to Newport, 40 hours.

Connecticut, Captain E. S. Bunker, arrived June 6, 1822, at New York on its first trip from Providence, and July 12th the Rhode Island & New York Steamboat Company was formed. Regular trips, twice weekly, were begun with *Fulton* and *Connecticut.* Fare was $10 from Providence and $9 from Newport. The advertisement of the Company first appeared under an illustration of a man-of-war. A steamboat illustration was substituted in a few weeks.

Retaliatory Connecticut laws aimed at the Fulton monopoly had driven *Fulton* from its New Haven run, and *Connecticut* from New

London. *Connecticut* was the first Long Island Sound liner, 150 feet length, 26 feet beam and 200 tons, painted white with much green trimming, with square ship's stern, and cost $80,000. Her engine was of the "square" type.

The log of *Connecticut's* first trip to Providence shows that it left New York at 4 P.M., July 12, 1822, and was detained 8½ hours at Sands Point because of easterly winds, arriving off Fishers Island

Steamboats shared the trade with the smart packet sloops

the next night at 8 o'clock, where it lay to for three hours and doubled Point Judith at 2 A.M. second morning, touching at Newport and arriving at Providence at 8 P.M. with 40 passengers.

Fulton, Captain Law, was strongly built, 134 feet length, 30 feet beam, 9 feet depth of hold, largely occupied by machinery. The boilers were copper and burned wood, and later when iron boilers were installed, the copper salvage paid for the new equipment. Neither *Fulton* nor *Connecticut* had upper saloons, state rooms or a hurricane deck. Power was applied to *Fulton's* paddle wheels through noisy cogs. Sails were usually set.

The sail packet owners proposed bills in the Rhode Island legis-

lature which taxed each steamboat passenger 50 cents, and restricted landing of steamboat passengers from another state on Rhode Island territory. The tax bill passed the senate but failed in the lower house, where the majority felt it to be unconstitutional. The other measure was indefinitely postponed.

Connecticut and *Fulton* resumed trips in the spring of 1823. *Fulton,* Captain William Comstock, had been overhauled and the engine rebuilt and it was now nearly as fast as *Connecticut.* Business increased and the 1824 schedule provided departures from Providence 7 A.M. Tuesdays and Fridays, touching at New London each way.

The stage coaches now became feeders for the Providence steamboats. Stage journeys were not comfortable, but travelers did not complain, accepting whatever happened with tolerance and fortitude and sharing difficulties with the coach driver, who frequently had to call upon passengers to lean out of the coach, first on one side and then on the other, to prevent overturning. "Now, gentlemen," he would call, "to the right!" and passengers would stretch their bodies halfway out to bring a balancing weight to that side. Fast time was made by the best known stage lines between Providence and Boston. New York passengers arrived by steamboats at Providence in 23 hours, where 15 to 25 stages met the boats for the 44-mile drive to Boston.

Providence was the gateway to New England and from Boston and Worcester fast coaches brought passengers for the boat lines to New York. Majestic side-wheel steamboats waited impatiently and as sailing time approached high-wheeled, brilliantly painted Concord coaches, suspended on "C" springs of strap leather, with well-matched teams and gay passengers inside and on top, pulled up at the wharves. A traveler making the journey in 1822 describes its sensations: "We were rattled from Providence to Boston in four hours and fifty minutes. If any one wants to go faster he may send to Kentucky and charter a streak of lightning."

Dinner was served at Wrentham, a tiny village clustering around two hotels, Polley's and Fuller's. Going one way the passengers dined at Polley's; the other way all dined at Fuller's. It was a blessed arrangement; no loud-voiced runners, no horrid gongs, but whether Polley's or Fuller's it mattered little, the dinner was always a masterpiece, "a superb creation," says a writer of the time. It cost but 50 cents, "yet many a traveler would say that although he had dined sumptuously in other places he had never tasted dinners like those he obtained at Wrentham."

Boston travelers dined well at Wrentham

Stage fare from Boston to Providence was commonly $3, but when newcomers competed, the older lines reduced fares. Often cut was met with cut and the public enjoyed cheap transportation. Once, a free trip, free dinner and a bottle of wine were included, but in the end some one was shaken off, or the fight compromised.

Captain E. S. Bunker organized his own company in 1825 to build *Washington* which came out March 15, 1826. *Washington* was 180 feet length and had two engines and carried sails which were spread for favorable winds. It had one long cabin and once made a round trip to New York in 48 hours including a 9-hour stop at the dock in New York.

Captain William Comstock commanded *Connecticut* in 1826 and Captain R. S. Bunker had *Fulton*. They operated as the Fulton Company, New York & Rhode Island Steamboats. Captain E. S. Bunker's *Washington* ran independent. The three steamboats were advertised May 1st, as the Fulton Rhode Island & New London Steamboat Line to Boston. The boats left Providence Tuesdays, Thursdays and Saturdays for New York and Mondays and Fridays for New London. The New London service was abandoned in July when New London had organized a line of its own.

New York, a steam brig, came on as opposition in 1824, cutting the fare to $6, which the older companies met and *New York* was run off. *Marco Bozzaris* quit Nantucket and came to Providence, 1827, but was run off after two trips, being used up. *Chancellor Livingston,* Captain Charles Coggeshall, came from the Hudson to serve Newport and Providence in 1828. *Chancellor Livingston* had a cabin on deck and boasted a cook of great genius and won a place in the competition for excellent meals. *Fulton, Connecticut, Washington* and *Chancellor Livingston* ran regularly to New York and the Citizens' and Commercial lines of stages connected. From Providence 328 stages departed weekly, showing how important travel had become.

Chancellor Livingston was 496 tons, 165 feet length, 32 feet beam, and 7.3 feet draught. The principal cabin was 54 feet length, and over it was a ladies' cabin 36 feet long. The engine rated 75 horse power, having cylinder 49 inches diameter by 5 feet stroke, and the boiler was 28 feet length and 12 feet wide. The paddle wheels were 17 feet diameter, by 5.9 feet. Two flywheels, each 14 feet diameter, were connected by pinions to the crank wheel and the machinery rose four feet above the main deck. *Chancellor Livingston* made six miles' speed against the strength of the tide, and mean speed was given as 8½ miles.

The Blackstone Canal, connecting Worcester and Providence, was completed October 23, 1828, and *Lady Carrington,* a passenger barge, competed with the stages for Worcester passenger business. Freight went by the Providence & Worcester Canal-Boat Company's fleet of twelve horse-drawn boats, 70 feet long, 9 feet beam, 2½ feet draft, and by eleven private owned craft.

Captain Thurber brought *Long Branch* in June, reducing the New York fare to $6, but in July *Long Branch* was advertised to be sold at auction to close the accounts of the Providence and New London Citizens' Coach Company.

Benjamin Franklin, built for Captain E. S. Bunker, coming to service September, 1828, was 144 feet length, 21 feet beam and 10 feet depth of hold, equipped with two engines and ship rigged on three masts. The cabins were decorated with a bust of Franklin and figures representing Fame and the Muse of History, and finished "with an eye to neatness, plainness, comfort and convenience." "The bar was in the forward cabin," says an early writer, who adds, "so were generally the male passengers."

Racing was the quick way to public attention and *Franklin* met *Chancellor Livingston* in a match race to Newport in October, 1828. *Franklin* won by three miles or 15 minutes. On behalf of *Livingston* it was claimed that a cracked piston had prevented the use of a full head of steam. The Providence *Journal* said, "With regard to the two boats we entertain but one opinion. They are both first rate steamships, and with *Washington* there are not three better in the country." The season of 1828 opened with Captain William Comstock in command of *Washington,* Captain Tomlinson in *Fulton,* Captain Coggeshall aboard *Chancellor Livingston* and Captain R. S. Bunker had succeeded to command of *Franklin.*

Liquor was prohibited aboard *Chancellor Livingston* in 1829 but the order was unpopular and was modified to exclude hard liquor. The company "supplied red wine of good quality and pleasant flavor."

Captain E. S. Bunker built *President* for his son, Captain R. S. Bunker, the first steamboat to offer staterooms, the first to abandon masts and sails, and credited with 17 miles speed. *President* made its first appearance, November, 1829, and was 160 feet length, 32 feet beam, and 11 feet depth of hold. The engine had cylinder 48 inches diameter by 7 feet stroke. During the winter 1829-30 *Washington* and *President* operated as the New York & Boston Steamboat Line.

The first serious accident to Providence steamers occurred May

14, 1831, when *Chancellor Livingston,* Captain Comstock, ran into *Washington,* Captain Tomlinson, just before midnight off New Haven. *Washington* sank in 15 minutes. The 52 passengers were saved, and but one life lost, though the property loss was large.

Bay State, an early day steamboat of Narragansett Bay

Livingston took off *Washington's* passengers and the next day, off Sands Point, transferred them to *President,* Providence-bound.

There were two lines during the summer of 1831. *President* and *Franklin* formed the New York & Boston Line and *Chancellor Livingston* ran opposition. In midsummer Captain Memnemon Sanford introduced *Boston,* a new boat, built in New York under direction of Captain William Comstock, and owned by the Rhode Island

& New York Steamboat Company. *Boston* was 150 feet length, had double engines and ran in connection with the Bunker boats. She was the first steamer built without a mast.

The season of 1832 opened auspiciously but the New York boats were withdrawn in July and August because of the cholera epidemic then raging in New York. *Boston* made trips in Boston harbor during the layoff and received many compliments. Service was resumed in September and fares were "$7 and found."

The Providence Steamboat Company was organized in 1832 with John W. Richmond as president, bringing out *Providence,* Captain Seth Thayer, 350 tons, the first steamboat in Long Island Sound with a beam engine. *Providence* was fast and once raced *President* from Newport to New York. A venerable Quaker, on board *Providence,* upon reaching his hotel was questioned about the race. "Oh, we beat her," said the man in drab, "I should think, an inch."

During the season 1833-34 the Bunker boats *President* and *Franklin* ran on one line and *Boston* and *Providence* on the other. *Connecticut* went to Maine in 1833 and *Chancellor Livingston,* having withdrawn from the Sound, struck a rock in Boston Harbor in 1834, and was abandoned to the underwriters. *Hercules,* a Vanderbilt boat, made a single trip in 1832.

The new railroad connecting Boston and Providence was finished during the summer of 1835, attracting great numbers of passengers, and sounded the knell of the stage coach. The connecting steamboats did a thriving business. Desire to lessen the through time to New York caused the railroad directors to arrange with Commodore Cornelius Vanderbilt to operate fast steamboats in connection with the new railroad. *Lexington* made its first run, June 2, 1835, Providence to New York in 11½ hours, a new record. *Lexington* was 205 feet length, 22 feet beam, 11.6 feet depth of hold, and left Providence Sundays, Wednesdays and Fridays. "Through by daylight" was the motto. Fare was $4, meals extra. The night boats reduced fares to "$5 and found."

The new railroad was not wholly popular, and there were dissenters not ready to accept railroads in preference to stages. In the diary of a traveler, "Recollections of Samuel Breck," is this view:

> "July 22, 1835. . . . Five or six other cars were attached to the locomotive and uglier boxes I do not wish to travel in. They were made to stow away some 30 human beings who sit cheek by jowl as best they can. Two poor fellows, who were not much in the habit of making their

toilet, squeezed me into a corner, while the hot sun drew from their garments a villainous compound of smells made up of salt fish, tar and molasses.

"By and by, just twelve—only twelve—bouncing factory girls were introduced, who were going on a party of pleasure to Newport. 'Make room for the ladies,' bawled out the superintendent. 'Come, gentlemen, jump up on top; plenty of room there.'

" 'I'm afraid of the bridge knocking my brains out,' said a passenger. Some made one excuse, and some another. For my part I flatly told him . . . I had lost my gallantry and did not intend to move. The whole twelve were, however, introduced and soon made themselves at home, sucking lemons and eating green apples. . . . The rich and the poor, the educated and the ignorant, the polite and the vulgar, all herd together in this modern improvement in traveling.

"The consequence is a complete amalgamation, master and servant sleep heads and points on the cabin floor of the steamboat, feed at the same table, sit in each other's laps, as it were in the cars; and all this for doing very uncomfortably in two days what would be done delightfully in eight or ten. . . .

"Talk of ladies on a steamboat or in a railroad car! There are none. I never feel like a gentleman there, and I cannot perceive a semblance of gentility in any one who makes part of the traveling mob. When I see women elbowing their way through the crowd of dirty emigrants or low bred homespun fellows in petticoats or breeches in our country, in order to reach a table spread for a hundred or more, I lose sight of their pretensions to gentility and view them as belonging to the plebeian herd.

"To restore herself to her caste, let a lady move in selected company at five miles an hour, and take her meals in comfort at a good inn, where she may dine decently. . . . The old fashion was of five or six miles with liberty to . . . be master of one's own movements . . . is the mode to which I cling, and which will be adopted again by the generations of other times."

Massachusetts, Captain William Comstock, came out in 1836 and was a favorite, 202 feet length, 29 feet beam, 12 feet depth of hold

and registered 713 tons, with two engines of 145 horse power. Later, when a new bow was added it then measured 920 tons. Originally it had two copper boilers on the guards, replaced with iron boilers in 1849. *Massachusetts* was the strongest and best boat of its class when built and cost $100,000. The cabin in the hold was 170 feet length with 142 berths.

Massachusetts, a notable steamboat which began the Fall River Line

The owners of *Massachusetts* bought an interest in *Boston,* and made an arrangement with the Providence Steamboat Company. *Massachusetts, Boston* and *Providence* were advertised under the name of the Boston & Providence Railroad Line. This was the beginning of the famous Transportation Company which afterwards held sway upon the Sound. It was first called the Boston & New York Transportation Company and afterward the New Jersey Steam Navigation & Transportation Company. Robert Schuyler was president, followed by C. O. Handy.

The Transportation Company ran *Massachusetts, Boston, Providence, President* and *Franklin* during the early summer of 1836, and in August added *Rhode Island,* which had been built for Captain Seth Thayer. *Rhode Island* was 211 feet length, 28 feet beam and 10 feet depth of hold, with a single engine of 350 horse power. The greater speed of *Lexington* embarrassed the Transportation Com-

An earlier *Rhode Island* with cross-head engine

pany who now built *Narragansett,* Captain Coleman, which arrived in Providence October 13, 1836, measuring 576 tons and 212 feet length, 27 feet beam and 10 feet depth of hold with 300 horse power engine.

Narragansett was frightfully crank and rolled down on slight provocation. The engine was too powerful and was frequently laid up for repairs. During the October gales *Lexington* broke its tiller

ropes in the Sound and the first officer, Isaac K. Dunstan, was lowered over the side and secured the tiller ropes. The passengers testified their appreciation of Dunstan's courage by presenting him with a watch and pin for which $200 was contributed.

Cleopatra ran between Providence and New York at $1 fare in the fall of 1838. *Boston* was advertised for sale this fall and *President* and *Franklin* made irregular trips in 1839, but their glory was waning, and they became coal barges.

Kingston, built for the Narragansett Steamboat Company in 1836 and first run between Providence and Newport in 1837, was an opposition Providence-New York boat for short seasons in 1837 and 1838. *Mohegan,* in the Railroad Line late in 1839, soon proved too small and weak-powered for the route.

The steamboat business thrived in the panic of 1837 when failures were common. Business men whose fortunes had been swept away took night trips and participated in gay parties in an effort to forget. With ruin and beggary a few hours away voyagers would say, "It is better to laugh than to weep," but mirth was forced and often uncanny in the hard circumstances of that panic year.

Massachusetts for much of its career ran to Providence and Fall River, and at times to Stonington, and ran excursions out of New York in 1855, and between New York and Philadelphia. *Massachusetts* went into Government service at the outbreak of the Civil War and April 23, 1865, was engaged in transporting wounded Union soldiers to Washington when run down in the Potomac River by the freighter *Black Diamond,* and 60 lives lost by drowning. The accident was due to disregard of rules by both pilots, who lost their licenses. The local board of steamboat inspectors, James M. Muller, Sr., Supervising Inspector of the Baltimore district, reported "this lamentable loss of life has been caused by the present system of carrying signal lights." The designation of red and green side lights to be carried by steamboats was authorized by Congress March 3, 1849, amended in 1864.

The first steam whistle to be used on a steamboat was on Narragansett Bay, on *King Philip,* Captain Thomas Borden, plying between Fall River and Providence in 1837. Stephen D. Collins, the owner, having seen a whistle on a locomotive, conceived the notion that it would be a good thing on shipboard, and ordered one for *King Philip.* Meeting opposition at first, steam whistles were generally adopted for steam vessels.

The railroad had pushed west from Providence to Stonington by 1837. Two Providence steamboats were transferred to the new

Stonington terminal, a year 'round port, beginning the famous Stonington Line, a property that continued important for many years and which was owned at periods by Commodore Vanderbilt and Uncle Daniel Drew. Stonington's fine old wharves mark the days when it was one of the busiest ports along the coast. It had been but a small shipbuilding town with a farming country about it, but the building of the Providence & Stonington Railroad made it alive and busy with the arrival and departure of trains and steamboats which grew in size and passenger and freight capacity. Stonington Line steamboats held their own years after the New Haven, New London & Stonington Railroad was built in 1852, but in 1900 the port was abandoned, leaving Stonington quiet and much as before.

Opening of the Stonington extension of the railroad made changes necessary in the Transportation Company's routing of steamers. *Narragansett* and *Rhode Island,* recently built, were placed on the Stonington run and *Massachusetts* continued regular trips around Point Judith to Providence.

Providence resented the competition of Stonington and in 1837 the Atlantic Steamboat Company was organized with Dr. John W. Richmond as president. *John W. Richmond* was built by Colonel John S. Eddy at Eddy's Point, 200 feet length, 24 feet beam and 12 feet depth of hold. J. Babcock's Providence Steam Engine Company built the engine, having cylinder 48 inches diameter by 11 feet stroke and the wheels were 25 feet diameter. Captain William H. Townsend commanded. *John W. Richmond* began trips June 7, 1838, and charged $3 fare.

It was reported to the railroad that *Richmond* would likely beat any of the boats of the regular line, and *Narragansett* was gotten ready, meeting *John W. Richmond* on the first run eastward to Providence, and beat *Richmond* almost an hour. When the engine worked smoothly and with dry wood fuel *John W. Richmond* habitually beat the steamboats of the regular line. This embarrassed the railroad management, and the story was commonly told that "the railroad line offered Commodore Vanderbilt $60,000 for *Lexington* provided she could beat *John W. Richmond.*" *Lexington* took its place on the regular line, commanded by Captain Jake Vanderbilt, "whose reputation for reckless daring has been equaled by few and exceeded by none."

John W. Richmond and *Lexington* set out from Stonington in a race to New York. Both steamboats were under way the same instant but *John W. Richmond* had advantage of position and was soon 100 yards ahead. The race was reported at the time:

"For ten or a dozen miles down the Sound there was no perceptible change in the relative position of the boats. Then dense clouds of smoke poured from *Lexington,* a sheet of flame shot up from her stack, her wheels turned swifter, and a cheer burst from passengers as they realized the gap between them and *Richmond* was closing. It was an anxious moment on board *Richmond* for *Lexington* was gaining fast. Where was Captain Townsend? There was no reply. He was not to be found. But the movements on board *Lexington* had not escaped his eye. The moment that the boat left Stonington men had been set picking out the most resinous wood and piling it for immediate use. The engineer had been tightening bolts and screws, and *Richmond* was ready for the race.

"At the first puffs of black smoke from *Lexington,* Captain Townsend had rushed to the engine room and was consulting the engineer. 'Oh, she can stand considerably more,' said that functionary; and the Captain answered, 'Well, put in the fat wood and let her go.' She did go. Volumes of smoke poured from her funnel, and the roar of her fires could be heard all over the boat. A column of flame stood a pillar of fire above her. She trembled at every revolution of her wheels. The water seethed and boiled beneath her, fire and smoke were round about her overhead. She advanced like the rush of an avalanche—she was a moving volcano. Slowly, steadily, she moved away from *Lexington;* wider and wider grew the interval between them, until at last *Richmond* dashed between the rocks at Hell Gate and *Lexington* was seen no more until she came by an hour after *Richmond* had made fast to her pier.

"Vanderbilt never forgave *Richmond* for that day's work. *Lexington* was, without doubt, the faster boat, but *Richmond* had fairly beaten her once and nobody could say that she was unable to do it again."

In spite of disadvantages of connections and higher fares *Richmond* flourished. The Transportation Company bought enough stock to influence the management, and to eliminate competition *John W. Richmond* was sold in 1840 to Captain Kimberly for $52,000 to run between Boston and Bath, Gardner and Hallowell, Me. Three years later it burned. In its early days *Richmond's*

boilers were on deck, but after it capsized at the wharf they were placed below.

Lexington was lost January 13, 1840, when 150 persons perished and only four were saved. *Lexington,* Captain George Childs, was then running to Stonington, and fire broke out when the liner was off Eaton's Neck, Huntington, about 7 P.M., starting about the wood casing of the boiler stack. A strong wind from the north fanned the fire. Flames amidships separated the passengers. *Lexington* was headed for the Long Island shore, but had not proceeded far when the wheel ropes parted and the boat was unmanageable. A rush was made for the four boats, but in the confusion these were launched while the burning boat was under full headway and were immediately swamped, being filled with passengers not one of whom escaped.

When the engine stopped the steamboat drifted while the flames swept from bow to stern. Bales of cotton, boxes, trunks, settees and everything that offered a chance of saving life was thrown overboard and the sufferers threw themselves from the burning wreck to the freezing sea, clinging to whatever was in reach in the hope that they might be preserved.

S. A. Howland pictured the scene in "Steamboat Disasters," published in 1840:

> "The lurid light of the blazing wreck shone far over the cold and dreary waste of waters, showing with fearful directness the dreadful scene in its immediate vicinity. Human beings were floating around in every direction—some were yet living, but more had ceased to be—some were struggling to gain a fragment or bale of cotton, while others in happy unconsciousness, were sinking into the cold flood of death. Here was heard the last wild shriek of despair—husbands, wives, fathers, mothers and children were plunging into eternity, with the heart-breaking cry of agony dying on their lips."

Of the passengers and crew but four were saved, Captain Chester Hilliard of Norwich, a passenger, Captain Stephen Manchester, pilot, David Crowley, second mate, and Charles Smith, a fireman of *Lexington.* The sloop *Merchant,* from Southport, Captain Meeker, rescued three. On the second evening succeeding, David Crowley floated ashore on a bale of cotton, having drifted 50 miles in 50 hours. He walked three-quarters of a mile to the nearest

house and was so exhausted he could make no sound. Without coat or hat, exposed to the severity of the coldest winter weather, he had floated over the water for two days and two nights.

Crowley saw *Merchant* pick up two persons, and tried to attract attention, but without success. He expected to drift ashore at Faulkner's Island, the first night, but exhausted, composed himself on his bale of cotton and slept soundly until morning. Revived by the night's rest he continued exertions to reach land, coming ashore in the early evening.

The bale of cotton which carried Mate Crowley ashore was highly prized by him. When, in Civil War days, cotton was bringing high prices Crowley parted with it and the bale which had been in his possession 12 years was worked into cotton cloth and became "Lexington Brand," by which name it has been known all the years since, keeping alive memory of the most terrible of the early steamboat disasters.

Captain Joseph Comstock was dispatched by the owners to make investigation. He covered the scene of the disaster in the steamer *Statesman,* Captain Peck, meeting great difficulty in getting past Sands Point, and he spoke every vessel met for news of the wreck. A number of bodies were recovered. Evidence was adduced at the coroner's inquest that the sloop *Improvement* was but five miles from the burning steamboat and that her captain, William Tirrell, made no effort to go to the rescue, asserting that he believed the passengers would get away from *Lexington* safely in boats. It was thought that *Improvement* was in position to save half of the lives lost if the attempt had been made.

Colored prints of the burning *Lexington* were widely circulated.

The Providence Line lost much of its importance in this period when the railroad line ran two boats from Stonington and but one from Providence.

In 1845 there were five Providence-New York lines. *Worcester, Telegraph, Washington, Neptune* and *Rhode Island* which ran independently of one another.

A short-lived Providence-Greenport line, making Long Island railroad connections, offering 50-cent fares Providence to New York, opened with steamboat *New Haven* in July, 1845.

Ship news printed in the Providence *Journal,* 1846, reported:

> "Providence-New York Line: *Massachusetts,* Captain Potter; *Rhode Island,* Captain Manchester; *Neptune,* Captain Roles."

Massachusetts and *Rhode Island* were rated 1,000 tons each and "took freight (goods generally) at six cents a foot." The line docked at India Point, making Boston train connections, and touched at Newport.

Oregon, Captain William Phillips, and later Captain William Roles, and *Knickerbocker,* Captain Seth Thayer, were added to the railroad line out of Stonington in 1846. Both were fast steamboats from the Hudson River and were advertised: "*Oregon* and *Knickerbocker* have each 60 airy, private staterooms and berths for 500 passengers, and for speed, safety and comfort are unsurpassed." These boats comprised the "regular mail line."

Cornelius Vanderbilt, a new boat, came out in 1847, being very fast, continuing with *Connecticut* and *Commodore* until 1861 when *Connecticut* went to the Hudson River, immediately being chartered by the Government for Civil War duty around Washington, Baltimore and Fortress Monroe. *Commonwealth* came to the Stonington Line in 1859.

The Fall River Line was organized in 1847 and the railroad line withdrew its boats from the direct Providence route. *Narragansett* and *Rhode Island* were sold South and both were lost at sea.

From 1841 to '47 there was ceaseless competition on Providence River. *Belle, Gladiator, Telegraph* and *New Haven* fought the older lines. *Cleopatra* and *New Haven* ran as day boats to New York through the summer, 1842, and in the fall *Charter Oak* came from Hartford. *Curtis Peck,* from the Hudson, was the leading opposition in 1843. *Iolas, New Jersey* and *Neptune,* Captain William Rollins, ran from Providence to Newport, 1844 to 1846.

Washington, 225 tons, an auxiliary steam sloop independent freighter, made Providence in 20 hours from New York. She was built in Bristol, R. I., in 1844 for William L. Bailey, Samuel B. Mumford and Captain Thomas Hull of Providence and Joseph L. Gardner of Bristol; commanded by Captain Hull; ran three years to New York, and was sold to the government for Mexican war service in 1847.

Captain E. S. Bunker, one of the outstanding figures of early steamboating, died in 1847. He had played a leading part in Hudson River sloop navigation; was associated with Fulton, and the early steamboat history of Providence River is the story of his life. He quit active steamboating in 1835 and was appointed a Government steamboat inspector, Providence district.

The Commercial Steamboat Company was organized in 1851 with $750,000 capital. The company operated three propellers, *Pelican,*

350 tons, Captain Jedediah Williams; *Petrel,* 267 tons, Captain George Rogers and *Osceola,* 177 tons, Captain William M. Jones. These were the first propellers to enter the Sound trade. *Westchester* was purchased soon after and in 1855 a daily service to New York was started. *Curlew* was added in 1856, a new boat, famous as an ice breaker, and in its first winter, 1856-57, the Sound froze solid at Throgg's Neck so there was crossing on the ice and Narragansett Bay was frozen tight. During the next five years the company added *Albatross, Penguin, Falcon, Eagle, Seagull* and *Kingfisher.* Two or three boats left every day. The company's stock sold at $200 and paid 25 per cent annual dividends. In 1852 *Peytona* and in 1853 *Osprey* were built for the line. *Peytona* was not accepted by the company; *Osprey* ran many years.

When the Commercial Steamboat Company declined to accept *Peytona* from its builder, it was an affront to the company's own official head. For the president, Captain William P. Williams, was himself the builder. Thereby hangs a tale of 12 years' steamboat war, which influenced marine history for many more years. This is a good place to refer to the part taken in Long Island Sound commerce by Captain William P. Williams of New York and Benjamin Buffum and Benjamin Buffum, Jr., of Providence.

"Williams's function," a historian, Robert Grieves, writes, "seems to have been to build new boats and start new lines for Providence people." The elder Buffum for 20 years devoted himself to the development of the Sound Line business, particularly in freight, and fought and overcame opponents both within his own company and among competitors. Then he turned to Narragansett Bay steamboating, in which the fight for business success was taken up by the younger Buffum, who played the same rôle in the excursion and shore resort business for some 20 years more.

Captain Williams and the elder Buffum organized the Commercial Steamboat Company. Williams was president and Buffum manager. When in 1852 his company refused to accept *Peytona* he sold the boat and also the control of the company's stock to the Norwich Line. Buffum turned the tables, selling a new issue of stock and thus restoring control to Providence hands. Result: A combination of all the other lines in the Sound against the Commercial, and a rate war. Buffum placed passenger cabins on his steamers and cut fares, Providence to New York, to 50 cents. Freight rates, which were seven and eight cents a foot, he cut to two cents. The Commercial made money, too—25 per cent dividends and new boats built. Daniel Drew advised peace on the basis of leaving the Commercial's

freight business alone if Buffum would drop the passenger business. This was done. The deckhouses which had accommodated the passengers were removed from the Commercial Company fleet.

In 1863 Buffum resigned and was succeeded as managing agent by Isaac H. Southwick, who had been superintendent of the Providence & Worcester Railroad. Edward P. Taft became president. In 1865 Buffum was organizing the American Steamboat Company, with new boats, for supplying transportation between Providence, Newport and waylandings. In 1868 he was "back in the game" on the Sound as president and manager of the Providence & New York Steamship Company.

Captain William P. Williams, after the *Peytona* affair, went to South America, returned, built new boats on a venture, showed them to Providence capitalists and shippers and organized the Neptune Steamship Company, which in 1864 bought the Commercial Steamboat Company. Later (1867) he built *Stonington* and *Narragansett,* offering them first to the Providence and New York Steamship Company but eventually selling them to the Stonington Steamship Company.

Handling in Providence the amount of merchandise tonnage represented by two, three and even five sailings in a day, as was the case with single lines in the '50's and '60's, the steamboat men could dictate terms to the small railroads which were competing with one another for New York freight from Boston and the interior. Some of the old steamboat men were rather "high and mighty," too. It is related that the Neptune's accounting department got so "piled up" with business that they were owing a large sum in freight money due the Worcester Railroad. Superintendent W. D. Hilton sent his clerk, F. G. Spencer, to the auditor's office of the Neptune Line at Fox Point one day to straighten out affairs. The official at the head of that department, ponderous in body and manner, asked, "Who are you?"

"I am Mr. Hilton's clerk."

"So, Mr. Hilton sends a clerk to me," thundered the pompous one, whose chief object at that time was to postpone the labor of straightening out a tangle in his own office. "I, sir, am X. Y. Soandso, general auditor of the Neptune Steamship Company, and when Mr. Hilton sends to me an officer of equal rank I shall be willing to do business with him."

Spencer reported back to Hilton. It is doubtful if the P. & W. R. R. had an officer of such pretentious title, for its organization

was simple. Anyway, Mr. Hilton took a pen and letter sheet and wrote:

> "To whom it may concern: Mr. F. G. Spencer is hereby appointed general auditor of the Providence & Worcester Railroad Company with full authority to settle accounts with and receive payment from the Neptune Steamship Company."

"Put that under the old fellow's nose," said he. Spencer returned to Fox Point and handed the letter to the pompous one. "Yes, yes, well, that matter has been handled by my clerk, Mr. ——, and you will have to talk with him."

It was Spencer's turn. "I shall do business only with an officer equal in rank to myself. If you are the general auditor I demand a balancing of our account and the sum due before I leave here."

In some way the old gentleman got down to real work and balanced the account.

Spencer was later, for a long period, a superintendent for the New York, New Haven & Hartford Railroad.

BEGINNING OF THE FALL RIVER LINE

Railroad connection between Boston and Fall River was completed in 1845, the first train running June 9th. Colonel Thomas Borden and his brother organized the Fall River Line with *Eudora,* a small steamer. They were directors of the Fall River Branch Railroad, which two months later became the Fall River Railroad Company, running from Fall River to South Braintree and connecting with the Old Colony Railroad to Boston. In the first year the road carried 50,382 passengers. It had cost $829,983 and the first season profits were $10,382.

Colonel Borden incorporated the Fall River Line as the Bay State Steamboat Company, in 1846, with $300,000 capital. It purchased *Bay State* and *Massachusetts,* the largest steamboats of their day. *Bay State* ran from New York to Fall River in 9¼ hours including call at Newport. *Bay State,* built by Samuel Sneden in 1848, was 317 feet length, 39 feet beam, 13.2 feet depth of hold and 8 feet draught, measuring 1,554 tons. *Bay State* was lengthened to 352 feet, 82 feet beam over guards in 1854, and the new measurement was 2,000 tons.

T. Main in "Marine Engineering" said, "The most noted beam engine built during the period was that of *Bay State* for the Fall River Line; cylinders 76 inches diameter by 12 feet stroke, with return flue boilers, carrying 25 lbs. steam with Stevens' cut-off at half stroke." The Allaire Works built engines and boilers. Wheels were 38 feet diameter, buckets 10 feet 3 inches and dip 3½ feet.

Bay State made its fastest trip in 1857, New York to Fall River, including Newport stop, 8 hours and 42 minutes. *Bay State* continued on the line 17 years, and was then made into a coal-carrying barge. Part of the engine room equipment was later installed in *Old Colony*. So prosperous had the line become that the company chartered *Rhode Island* and plans were made for *Empire State,* which came on in 1848, continuing 23 years. Travel was beginning its great fashion and popularity. The steamboat business boomed. "The wealth and fashion of New England promenaded here," said the caption of an old print showing a Fall River liner's grand saloon.

State of Maine, built for a new line connecting Boston and Portland, Me., ran a year on that route, when it was purchased by the Fall River Line in 1850 and continued until 1863. *Metropolis* was added in 1854. Both *Empire State* and *Metropolis* were paid for out of earnings, and the company was good to its stockholders, who were fortunate in their investment, for in one period of ten months the line paid six per cent monthly dividends. *Metropolis* was in service 19 years, and then, in 1873, was rebuilt as a freight transport to run between New York and Sandy Hook in connection with a through western line, but the project failed and *Metropolis* was broken up in 1880. *Empire State* extended its usefulness, after leaving the Fall River Line, by making day excursions from Boston and other Eastern ports, managed and commanded by Captain J. M. Phillips. She outlasted *Metropolis.*

JIM FISK'S INTRODUCTION TO DANIEL DREW

James Fisk, Jr., fresh from his triumphs as a country peddler, selling merchandise to Vermont farmers from a circus wagon, and from his coup in unloading great quantities of blankets to the Government, which had carried him into the firm of Jordan Marsh & Company, introduced himself to Daniel Drew in New York in 1850. He had a plan to sell the control of the Stonington Line which Vanderbilt and Drew owned and which they were anxious to unload. Fisk's success in selling this majority interest made him

a favorite with Drew and the sale was the beginning of a partnership that dipped into many enterprises in the succeeding 20 years. The negotiation gave Fisk an insight into steamboating, in which he became a picturesque character.

The Neptune Line, Providence & New York Steamship Company, was started in 1863 by the Spragues and William P. Williams of New York, with *Warrior,* a side wheeler of 1,500 tons and *Triton,* and in 1864 the Commercial Line sold to the Neptune Line, which brought out the same year the passenger and freight propellers *Electra* and *Galatea,* bringing Providence back as an important Sound terminal. These were splendid boats, 260 feet length, 40 feet beam and 15 feet depth of hold, powered with vertical direct acting engines by John Roach's Etna Iron Works, New York, with two cylinders each 44 inches diameter, by 3 feet stroke and fitted with slide valves and adjustable cut-off valves on the back of them. The single propellers were 13 feet diameter by 22 inches pitch. They made 15 miles' speed and in the 180 mile run, New York to Providence, consumed but 20 tons of coal.

When John Roach contracted to build these power plants he had never built an engine and knew little of engineering. He was an ironmonger with a small foundry which turned out structural castings for houses and bridges, and he had no tools for engine work. Roach associated with him T. Main, who had been superintendent engineer of Allaire Works, and designer for David and John Elder in Scotland, and under these circumstances Roach commenced his great career as a ship and engine builder. Roach had to build his Etna Iron Works plant in New York before he could undertake the engine contracts for the Providence liners.

The freight propellers *Oceanus, Metis, Thetis, Doris, Nereus, Glaucus* and *Neptune* followed. *Oceanus,* made into a passenger boat, burned at her pier in New York in 1868. *Metis,* next converted to a passenger carrier, was lost off Watch Hill early in the morning of August 30, 1872, through collision with the schooner *Nettie Cushing.* The night was rainy with a moderate gale. Of 110 passengers and 45 crew on *Metis,* approximately 70 were lost. The larger part of the passengers saved owed their lives to having remained on the upper deck, which floated off like a huge life raft and grounded at Watch Hill. Captain Charles L. Burton commanded *Metis.* Captain George B. Hull, managing agent of the line, was aboard and advised the passengers to remain on the upper deck, as from his knowledge of its construction, he believed it would float off in the way that it did. Captains Burton and Hull saved themselves

with difficulty. With the crew they climbed on the pilot house roof, which became detached and had floated almost to the shore when a wave carried it over and practically all of the crew were imprisoned beneath the deck house and drowned. Rev. William Sheafe Chase, long rector of Christ Church, Bedford Avenue, Brooklyn, then a small boy, and his grandmother came ashore on a bale of cotton, but the grandmother had died when the bale grounded.

Doris afterwards joined *City of New Bedford* as a freighter out of New Bedford.

SALE OF THE FALL RIVER LINE

The Old Colony Railroad completed an extension to Newport and the Bay State Steamboat Company sold the Fall River Line to the Boston, Newport & New York Steamboat Company in 1863. Newport became the terminal and Fall River ceased to be an active port. The new company did well and two years later added *Newport,* a four piper. Newport was then beginning its development as a summer resort of the very wealthy and it took pride in the great steamboats *Newport* and *Old Colony,* built by John Englis & Son, New York.

The Neptune Line out of Providence and the Stonington Line, then owned by the New Jersey Navigation Company, a Drew enterprise, were consolidated in 1866, the new company being known as the Merchants' Steamship Company. To the Neptune fleet were added the Stonington liners, *Commonwealth,* Captain J. W. Williams, *Commodore,* Captain Edward Curtis and *Plymouth Rock,* Captain Cleveland Geer. The new company's capital was $175,000 and its stock sold at $175 a share.

The railroad from Boston, which had first run to Providence, and next had stretched westward to Stonington, now pushed on to Groton, Conn., on the east bank of the Thames, across from New London, and Groton became the steamboat and rail terminal. The new service had hardly begun when *Commonwealth* burned at the Groton dock, without insurance, and fire destroyed the wharves. Groton was abandoned, and the line returned to Stonington. *Commonwealth* was rebuilt from the burned wreck, and returned to Stonington service, but was wrecked in a storm off Orient Point.

Commodore, Captain Edward Curtis, broached to in a heavy washer coming down the Sound to the eastward of Horton's Point and when *Plymouth Rock* went ashore at Shippan Point, Stamford, the

trinity of disasters bankrupted the company, and Stonington service was suspended. Two magnificent new steamers, *Bristol* and *Providence,* upon which the company had expended $1,500,000, sold for $350,000. The Merchants' Steamship Company's failure was a bad one in which stockholders recovered but three cents for a dollar

The magnificent four-piper *Newport,* of the Fall River Line

invested. From the ruin three lines emerged. The Metropolitan Steamship Company acquired *Nereus, Glaucus* and *Neptune.* The Neptune boats were bought by the Providence & New York Steamship Company and the Narragansett Steamship Company was formed by Boston, Providence and New York capitalists to take over *Bristol* and *Providence.* For two years (1867-68) these steamers ran to Bristol.

With the Civil War fading from memory, desire to travel came to thousands who had previously been content to go their ways

quietly in the places of birth. Those without earning ability composed the great armies of tramps crossing and recrossing the country. The larger number, held in restraint by responsibilities, yet nomadic, seized upon travel and passenger traffic grew. The days of competition were ending for rival lines entered combines for economical administration.

The Stonington Line was reorganized in 1867 by interests associated with the Providence and Stonington Railroad and resumed

Railroads superseded stage coaches in bringing travelers to the boats

service with *Narragansett* and *Stonington,* which came on in 1868. They were sister boats and had been planned as freighters, *Walrus* and *Grampus,* to run between New York and Philadelphia. To buy and rebuild them cost $320,000.

The Boston, Newport & New York Steamboat Company, which had absorbed the Fall River Line, was absorbed in 1869 by its enterprising rival, the Narragansett Steamship Company, with Colonel James C. Fisk, Jr., president. *Bay State, Empire State, Metropolis, Old Colony* and *Newport* were added to the Narragansett fleet and Bristol was made the terminal. *Bristol* and *Provi-*

dence, magnificent steamers with three decks and luxurious fittings, headed the fleet. Soon after it had acquired the Boston, Newport & New York Steamboat Company, the Narragansett Steamship Company transferred its eastern terminus from Bristol back to Fall River, with stop at Newport.

Bristol and *Providence* were built by William H. Webb, New York, and were 360 feet length, 48.6 feet beam, 16 feet depth of hold, 10.3 feet draught and measured 3,000 tons. John Roach's Etna Iron Works built the engines having cylinders 110 inches diameter by 12 feet stroke, and employing Sickles' adjustable cut-off valve gear. The paddle wheels were 38.8 feet diameter by 12 feet length and the buckets were stepped to prevent vibration. The boilers were flue and tubular type with two tiers of furnaces on E. W. Smith's plan, located in the hull.

Bristol and *Providence* excelled in speed, splendor and convenience, in steadiness and fuel economy and made 19 miles' speed. *Bristol* burned at Newport, December 30, 1888, but *Providence* ran until 1899 and was dismantled in 1901 in Boston. These magnificent night boats did much to advance the reputation of Sound liners. The country rocked with laughter over a comedy called "Fun on the *Bristol,*" in which John Sheridan and a company of comedians appeared several years. The action took place aboard *Bristol* and centered about a family's embarrassments occasioned by a recently rich mother who continually said the wrong things, a part played by Sheridan.

Fisk's desire to show off and the exotic period which could admire were illustrated in his Admiral's pose. Fisk's knowledge of navigation was as inconsequential as his military genius was negative, yet he was Colonel of a New York regiment. He achieved Admiral's honors by major ownership of the stock of the Narragansett Steamship Company of which he was president, and the Colonel's title came to him for meeting the regiment's annual deficit. Fisk loved to appear in uniform, and the fact that his lack of training and fitness to command was generally known did not take from his pleasure in appearing in gold lace.

The bizarre picture of Fisk's vanity and a fantastic description of steamboat elegance is told in a chapter of "The Life and Times of Colonel James Fisk, Jr.," published immediately after Stokes murdered him:

> "Through all the varied phases of his life since leaving his peddling business at Brattleboro, Fisk had never held

any position which compelled people to look at him daily in all his splendors with anything like the attention he attracted in that first stage of his career. But he had now achieved a notoriety so great that the gay throng of the city would gaze at him as the country people once had done, were opportunity offered. The summer of 1869 gave the opportunity and he enjoyed all the gratification in this respect that could be desired. The Narragansett Steamship Company was formed this season. Fisk became its president and thereby came into control of the finest line of steamers running on Long Island Sound.

"The two boats, *Providence* and *Bristol,* were thoroughly overhauled, renovated, fitted up in the most luxuriant style, refurnished with elegant carpets, upholstering, bronzes and general fixtures. The dining rooms were conducted on the *à la carte,* or European, plan and supplied all the accommodations and luxuries of a first-class hotel. To add to the pleasure of the lovely ride up the Sound, a fine band of music accompanies each steamer and delights the passengers with sweet strains of choice music through the first four hours of the trip. This novel feature adds much to the enjoyment of the journey and is highly appreciated by the public. It is to be regretted that the famous North River line has not followed the innovation. Everything objectionable under the former management disappeared and this became one of the most delightful and wholly enjoyable trips to be had anywhere in the world.

"It was in these steamers that Fisk seemed to take his special pride that summer, as he justly might. Each afternoon, a half hour or so before it was time for the steamer to start, he came upon the pier, in a 'nobby' citizen's suit, disappeared in some of the company's offices and soon emerged again in a full Admiral's uniform of the finest make. In this attire, which was quite becoming to him, he took his place at the gangway, where he must be seen by all who entered. His appearance the first few evenings created a grand sensation. The gay company that were promenading the decks and saloons, admiring the rich gilding, furniture, bronzes and mirrors, and listening to the music, suddenly turned all their attention upon the man who had achieved so much notoriety, who had furnished

the pleasures they were then enjoying and who dictated orders to the noble steamer and the crew.

"All crowded around to get a view of the man they had heard so much about of late. Young ladies whispered to each other and turned to gaze at him after they passed in; fathers pointed him out to their wives and children, and no one wished to miss a sight of him. There, in his elegant uniform, with the huge diamond sparkling in his shirt bosom, stood the man who had trapped both Vanderbilt and Drew, who had been the shield and sword of the Erie exiles in 'Fort Taylor,' who had made all Wall Street howl under his manipulations, who had purchased the Grand Opera House, built the Fifth Avenue Theatre and leased the Academy of Music—all within one short year.

"He was now the cynosure of all eyes and created the same sensation among the gayly dressed denizens of the city as he had formerly done among rustic villagers. The situation was one which he evidently enjoyed to the full, though he seemed sublimely unconscious of the curiosity directed to him, and issued his orders and directions as rapidly and imperatively as though he were wholly absorbed in his duties.

"Precisely on the moment announced for starting, he gave the command and the elegant steamer put out into the stream with her heavy load of passengers crowding her decks, music playing, flags flying, all her crew in uniform, each man having a badge on his cap showing his office and duty. It was a moment that was a full renewal of the feeling of pride which the young peddler felt on the morning when he first mounted his brilliant new cart and dashed out of Brattleboro with his four-in-hand and followers. The Admiral remained on board till the steamer was well out in the bay or hauled round into the East River. Here he was met by a small tug boat that came out to bear him back to the city. As he parted from the steamer that was now his pride, the company crowded around for another glimpse of him and the officers gave their commander a parting salute.

"The sensation and dramatic effect of Fisk's arrival upon the pier and casting off from the steamer upon the tug, was greatly intensified the first few evenings by his being

accompanied by his female favorite of the hour, attired like himself in naval style—a jacket of navy blue with gilt buttons and epaulettes, a hat in the sailor style, and decked out in all matters of detail in a manner evidently indicating a careful consultation of the Admiral's taste.

"The custom of going out into the stream with the departing steamer was not continued long. It necessitated a stop and some inconvenience, and was therefore discontinued as soon as the novelty and glory of the ceremony had worn away. Thereafter Fisk contented himself with giving and receiving the parting salute as the steamer put out from the pier. This formality over, he again disappeared in the offices of the company and soon came out metamorphosed in a surprisingly short time from a full-blown Admiral into a private citizen dressed in the extreme of fashion.

"It was in June of this year that the great Peace Jubilee took place in Boston. President Grant went on to attend and when he arrived in New York the best accommodations of Fisk's steamers were placed at his disposal and accepted. The Admiral improved this opportunity to have a little familiar conversation with the President. Jay Gould and several others of this *genus* were also passengers that night and sought to make themselves as intimate as might be with the chief magistrate of the nation. The Admiral, in full uniform, even accompanied the President to the Coliseum, the place in which the jubilee was held, and for simple sensation his presence on that occasion quite surpassed that of General Grant. It was this episode that won for him the title of 'Jim Jubilee.'

"This line of steamers was his plaything for the season of 1869, but of course it grew stale, lacking in novelty and excitement, by the end of the summer, and something new must be had. When the season of 1870 opened he completely eclipsed all his previous achievements in the steamboat line by adding *Plymouth Rock* to his flotilla. This new steamer is 345 feet long and of almost 2,000 tons burden. She had been almost completely rebuilt to his order during the winter. She contains thirty-two suites of apartments that rival New York's finest hotel for elegance and comfort. The restaurant dining-room is equally marvelous for the character of its supplies and *cuisine*.

"The bar-room is of a size and elegance rarely equaled in any establishment on *terra firma,* being extensively finished in white marble, with large mirrors and all the usual appurtenances in the most improved style. Nothing so gorgeous and extensive was ever before attempted in the way of a steamer. The furniture throughout is of the richest and most elegant style, the gilding, embellishments,

Travel was the grand adventure of the times

bronzes, etc., surpassing in profusion and luxuriance anything to be met with by a traveler anywhere else in the world. While walking through its saloons and cabins it is almost impossible to avoid the delusion that you are in some grand hotel furnished with oriental splendor. In fact, the steamer was intended for a sort of floating hotel.

"She was specially designed to accommodate the summer travel to Long Branch—of late the most famous of our

seaside watering places. She runs from New York to Sandy Hook, and was designed to afford first-class accommodations for those who might wish to go on board in the afternoon, use a suite of apartments for dressing, take dinner on board, drive to the hotels to any ball or entertainment in the evening, return to their apartments on the steamer to sleep, and wake up in New York next morning.

"This grand floating palace was Fisk's new sensation for the season of 1870. On Sundays he often used her for a pleasure excursion up the Hudson. On these occasions she was crowded by people seeking a day of leisure enjoyment, and it is difficult to imagine a greater combination of delightful influences and pleasures than that afforded by this palatial steamer gliding up the lovely Hudson on a beautiful summer's morning, amid scenery unsurpassed in grandeur by any in the world, replete with the historic interest that clings around Washington, Benedict Arnold, and André, the Palisades and Highlands echoing the strains of sweet music from the band on board. The trip was to Poughkeepsie, 75 miles, and back. On these excursions Fisk was present in his Admiral's uniform, smiling blandly upon everybody and playing the host with the proverbial good nature and affability of the man who 'knows how to keep a hotel.'

"In the summer of 1869, when the Erie offices were moved to the Grand Opera House, Fisk also established a new ferry from the Erie depot in Jersey City to 23d Street, and a free line of omnibuses from the ferry, past the Grand Opera House, to the Fifth Avenue Hotel. The two boats placed upon this ferry of course surpassed in elegance everything used on any of the other ferries. They are named *James Fisk, Jr.* and *Jay Gould,* and are in entire keeping with the rest of Admiral Fisk's flotilla."

The ferryboat *James Fisk, Jr.,* later became *Passaic* and in recent years ran on East River, New York, being then named *Broadway.*

Plymouth Rock, 1,810 tons, built by Jeremiah Simonson, New York, in 1854, was 330 feet length, 38 feet beam, 74 feet over guards and 12 feet depth of hold. Allaire Works built the engine with cylinder 76 inches diameter by 12 feet stroke, and boilers were 38 feet length by 12.6 feet width, 11.8 feet height, located on the

guards. Wheels were 37 feet diameter, with 30 buckets 10 feet length and 2.6 feet wide. The first trip was made October 17, 1854. *Plymouth Rock* was the most costly steamer running on Long Island Sound, running on the Stonington Line and to Groton. The Narragansett Steamship Company purchased *Plymouth Rock* for $94,000 as a spare boat, and for a short time it ran to Bristol, and then Fisk rebuilt it for excursion business in New York harbor. The Providence & New York Steamship Company and the Stonington Steamship Company were consolidated in 1875 as the Providence & Stonington Steamship Company with Captain D. S. Babcock of New York, president. The new company succeeded to the Boston & Providence Railroad Company's steamboat connections at Providence and Stonington and was closely identified with the railroad interest. Service was maintained through the year from Stonington with *Narragansett* and *Stonington,* and from May to November *Massachusetts* and *Rhode Island* ran from Providence. *Rhode Island* was built in 1873 and *Massachusetts* in 1877. The placing of the dining saloon on the main deck, instead of below, was claimed to have been an original idea in these two boats. "The through passenger line between Boston and New York (Providence Line) which has been abandoned 30 years since 1847—was revived by the present Company," said an announcement in 1877. *Massachusetts* was 325 feet length, 46 feet beam, 16 feet depth of hold, having engine with cylinder 90 inches diameter by 14 feet stroke, and had 200 staterooms. *Rhode Island,* also a side wheel boat, was smaller.

Narragansett and *Stonington* were in collision off Cornfield Point, five miles from Saybrook shore on the night of June 11, 1880, coming together in a fog. *Narragansett* was east bound and *Stonington* bound west. *Narragansett* took fire and sank with loss of 30 lives. *Stonington* had its bow crushed in. *Stonington, City of Norwich* and *Massachusetts* rescued 250 passengers and crew. *Stonington* returned to its name port, afterwards going to New York for repairs. *Narragansett* was raised and repaired at Palmer's yard, Noank. The two boats continued in service 13 more years.

Captain W. S. Young commanded *Narragansett* on the night of the collision, being temporarily in charge. Captain Samuel Walden was regular master. Captain Nye commanded *Stonington.* Young had been a regular master in the line 15 years and Nye 12 years. While *Narragansett* and *Stonington* were temporarily out of commission the company had but two passenger boats for its two lines, *Massachusetts* and *Rhode Island.* They continued to run from

Providence, and *Stonington* was hurriedly repaired and returned June 30th. *Falmouth* and *State of New York,* from the Connecticut River, helped out until *Narragansett* could be rebuilt.

A storm of bitter public censure of the skill of the officers, discipline of the crew and condition of the boat's equipment followed the loss of *Narragansett.* President D. S. Babcock, in a letter to the press, pleaded for a suspension of judgment and for himself, stated that in 20 years' experience as master, in sail and steam, and as steamboat company officer no life had ever before been lost on a vessel in any line with which he had been connected. The pastor of Trinity Methodist Episcopal Church, Jersey City, a week after the wreck, gave a Sunday night address on "Lessons from the *Narragansett* Slaughter." "The officers and crew of *Narragansett* undoubtedly are the biggest cowards in existence," the preacher, the Reverend R. Harcourt, said, to be interrupted by a deep-voiced "You're a liar!" from the pews. The disturber, taken to a police station, revealed himself as Captain Young, and gave his police station audience such a brave defense of his crew and himself that the charge against him was withdrawn.

Connecticut, 3,400 tons, and third of the name to run in the Sound, was built in 1889 by Robert Palmer & Sons, Noank, Conn., being 358 feet length, 48 feet beam, 87 feet over guards and 18 feet depth of hold, with five water-tight bulkheads. Frames were white oak and hackmatack, and the floor timbers were filled in solid for 180 feet of the length. Keelsons and ceiling were yellow pine and the bottom planking white oak. William Cramp Ship & Engine Building Company, Philadelphia, built the engine, double expansion, compound, inclined, direct acting, surface condensing, oscillating type, having cylinders 56 and 104 inches diameters by 11 feet stroke. Steam was supplied by six steel boilers. Wheels were feathering type, 28 feet diameter from center to center bucket trunnions, the 12 buckets being 14 feet length, 4.6 feet wide and 6 feet dip.

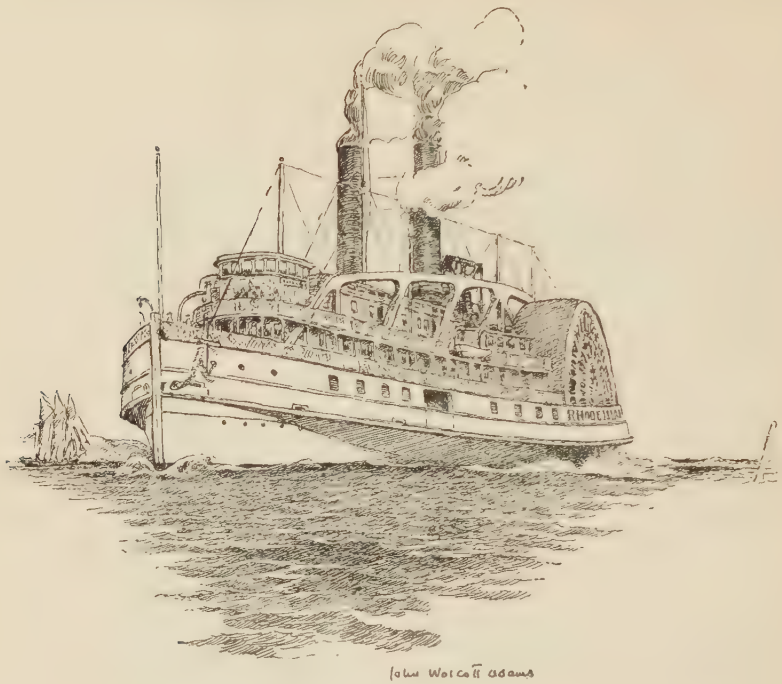
The Providence & Stonington Steamship Company in 1877 boasted that its routes were "the only way to go east without being disturbed before 6 A.M." It also said, "The railroad connecting with this line is double tracked, thereby avoiding the necessity of running trains by telegraph, incident to all other Sound line connections."

Massachusetts went ashore at Rocky Point, Long Island, in the fall of 1877, but was not damaged. *Rhode Island* was wrecked on Bonnet Point, entrance to Narragansett Bay, in the early '80's.

Massachusetts, a favorite Providence steamboat of the eighties

Little besides the engines was salvaged. A new *Rhode Island* was built and went on the line in 1882. This *Rhode Island* was purchased by C. W. Morse in 1916, when tonnage was at a premium and made into a four-mast schooner, but was sunk soon after in New York Harbor. *Connecticut* became a barge.

The Providence & Stonington Steamship Company added *Maine* and *New Hampshire* to the Stonington Line in 1892, magnificent propellers built by Harlan & Hollingsworth Company, Wilmington, Del., sister steamers, 302 feet length, 44 feet beam, 17.6 feet depth of hold, with seven water-tight compartments and 20 miles' speed. They were powered with triple expansion inverted direct condensing



The great *Rhode Island,* of the Providence-New York Line

engines having cylinders 28, 45 and 51 inches diameters by 42 inches stroke, and steam was supplied by four Scotch boilers. The equipment was rated 2,500 horse power.

During the winter 1917-18 *Maine,* bound east, met floating ice and fog at the entrance to the Sound, turned about for New York and struck on Execution Rock, at high water. The falling tide carried *Maine* down upon the jagged rocks, puncturing the hull, and pushing the engines and boilers through the deck, a total loss.

FALL RIVER LINE AGAIN ACQUIRED

The Fall River Line had been acquired in 1877 by the Old Colony Steamboat Company, closely allied with the Old Colony Railroad. The New Bedford Line was added in 1879, bringing in the freighters *City of New Bedford* and *City of Fitchburg,* which later was in turn *Surprise, General Warren* and *Warren.* Under these later

names she ran in independent lines until abandoned. The Old Colony Steamboat Company inherited a sizable fleet but travel was heavy and in 1881 contracts were let for a new liner, *Pilgrim,* which came on in 1883. *Pilgrim* was one of the early iron vessels in the Sound and the first flying the American flag to have a double hull, divided into 96 water-tight compartments, and no steamboat was so large, safe or comfortable. It was fortunate that *Pilgrim* had been built with so many safety factors, for the double bottom and water-tight compartments kept her afloat when she struck the rocks of East River, near Blackwells Island. *Pilgrim* was repaired and resumed service immediately. *Pilgrim* made 18 miles' speed, using 3 lbs. of coal per horse power hour.

Pilgrim was the first liner lighted throughout with electricity. The hull was built by John Roach & Son, Chester, 390 feet length, 50 feet beam, 18.6 feet depth of hold and measured 3,500 tons, with single beam engine, cylinder 110 inches diameter by 14 feet stroke, using steam of 50 lbs. supplied by four Redfield boilers. The paddle wheels were 41 feet diameter and 13 feet length.

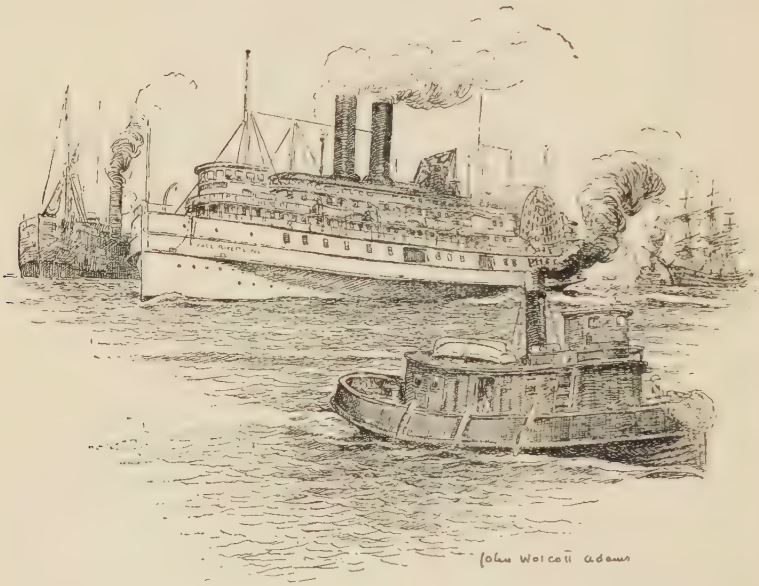
City of Fall River, 1883; *City of Taunton,* 1886; and *City of Brockton,* 1892, were side-wheel freighters of the line and others secured by corporate purchase were the propellers *Pequonock, Mohawk* and *Mohegan,* while *Boston,* 292.6 feet length, 45.7 feet beam, was built at Quincy, Mass., in 1904.

A new steamer for the Fall River Line, *Puritan,* 4,600 tons was added in June, 1889. John Roach & Sons built the hull, 420 feet length, 52 feet beam, 21 feet depth of hold, while W. & A. Fletcher, Hoboken, built the engine, inclined type with cylinder 75 inches diameter and 9 feet stroke for the high pressure and 110 inches diameter by 14 feet stroke for the low pressure. Paddle wheels measured 35 feet diameter and 14 feet length, with feathering buckets, and the boilers were Redfield Brothers return tubular type. *Puritan's* engines were 7,500 horse power and the speed was 19 miles, consuming 3 lbs. of coal per horse power hour.

Plymouth came out in 1890, being 366 feet length and 3,770 tons, built by John Roach & Son, with triple expansion engines by W. & A. Fletcher, 47, 75 and 81.6 inches diameter by 8.3 feet stroke. Two of the cranks set at right angles, the high and one low pressure on one crank, and the intermediate and one low pressure on the other crank. Paddle wheels were 30 feet diameter by 14 feet length, and steam was supplied by eight cylindrical Scotch boilers. The indicated horse power is 5,500 and coal consumption 1.8 lbs. per horse power hour. While undergoing repairs at the

Newport yard, 1906, the superstructure burned. A rebuilt *Plymouth* returned to the service in August, 1907.

The Boston & Providence Railroad was absorbed by the Old Colony Railroad. Soon after, 1893, the Old Colony system was leased to the New York, New Haven & Hartford Railroad Company for 99 years. The Old Colony Steamboat Company became the New England Navigation Company with J. W. Miller as its operating Vice President. Miller was president of the Providence



Pilgrim, the first American steamboat to have a double hull

& Stonington Steamship Company, succeeding Samuel D. Babcock, for the Providence and Stonington lines came into the New Haven system by the same arrangement. Mr. Miller retired from steamboating to complete the Cape Cod Canal, and was succeeded by Captain Henry O. Nickerson, senior captain of the Fall River Line fleet, and when he retired J. Howland Gardner became operating Vice President.

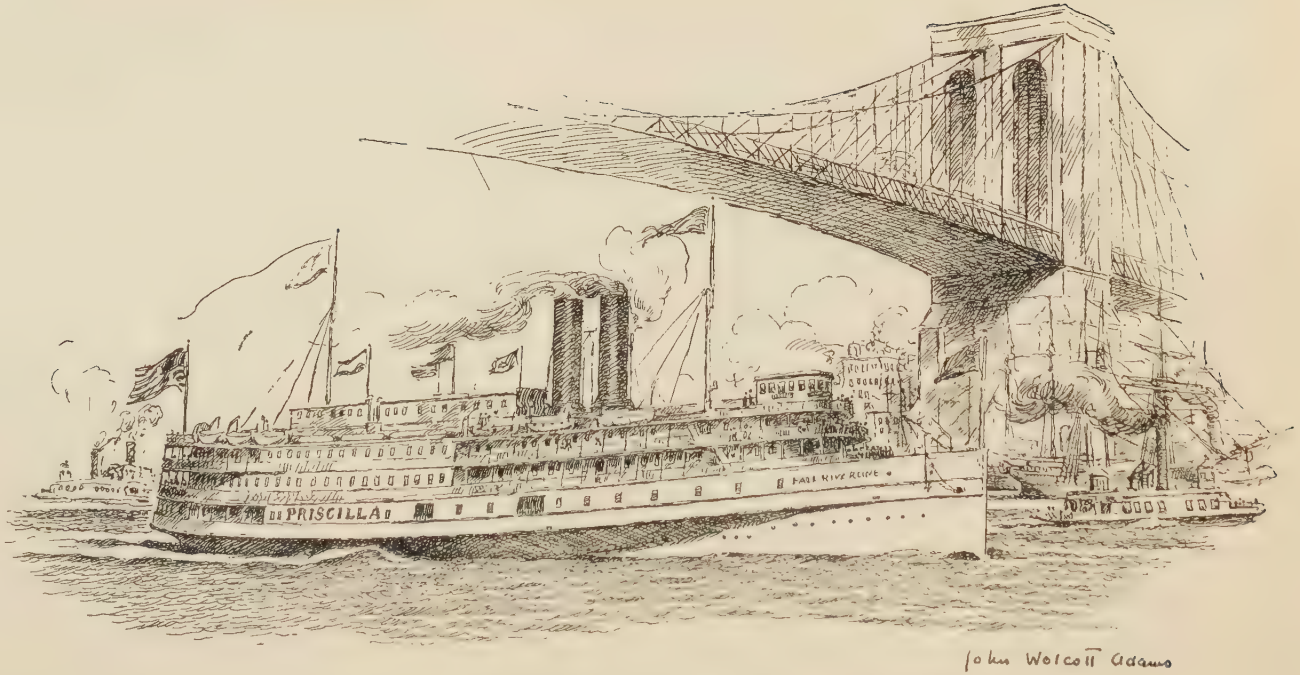
Priscilla was added to the Fall River fleet in 1894, being 440 feet length, with sleeping accommodation for 1,500 persons and 800 tons freight capacity, and cost $1,500,000. In 1905 *Providence* came out—built at Quincy, Mass., the last vessel designed by George

Pierce, the company's superintendent of construction, who died shortly after completing her plans. *Providence* was ordered especially for the company's Providence Line to New York, on which summer passenger service had been performed by *Massachusetts* and *Connecticut,* followed by *Plymouth* and *Connecticut, Puritan* and *Plymouth,* and in 1905 by *Providence* and *Plymouth,* which were on the route until the close of 1917. Passenger service from Providence was not again resumed by the New England Company, but a four-boat summer schedule on the Fall River Line was begun with *Commonwealth, Priscilla, Providence* and *Plymouth.* The four-boat schedule had been maintained at times in earlier years. Providence was left to be served by two lines, one, the Bay State, under railroad control, and the other, the Colonial, stressing, in its advertising, that it was the "independent line." *Commonwealth,* 5,980 tons, was added in 1908, being 456 feet length, 95 feet beam, 19.3 feet depth of hold and 11,000 horse power. *Commonwealth* was built at Cramp's, Philadelphia, with engine by the Quintard Iron Works, New York, with reported cost of $3,000,000 and was long known as "Mellen's boarding house." *Commonwealth* up to the present represents the best in size and all-round merit among Sound boats, when the heavy passenger requirements of the Fall River Line are considered, although by many she is regarded as marking the end of the policy of building side wheel boats for the Sound, which has been popular from the early days.

COMPETITION AMONG THE LINERS

The New Haven Steamboat Company found its New Haven passenger business dwindling, and in May, 1899, it extended its route to include Providence. It then operated as the Narragansett Bay Line. After a year it sold out to New Haven railroad interests. From 1899 to 1905 the railroad steamboat properties were managed by the New York, New Haven & Hartford Railroad Company, Marine District, including the Norwich Line, which had been acquired in the purchase of the New York & New England Railroad Company in 1899. Change was made in the corporate titles January 1, 1905. The Providence, New Haven and Bridgeport lines were incorporated as the New England Navigation Company. The Fall River and New Bedford lines were again placed under the corporate ownership of the Old Colony Steamboat Company, reviving the former name.

The New London Steamboat Company, operating the steamer



Priscilla, of the Fall River Line, under Brooklyn Bridge

Block Island, connecting Norwich, New London, Watch Hill and Block Island, and the two freighters *Mohawk* and *Mohegan* in connection with the Central Vermont Railroad between New London and New York were taken over by the New England Navigation Company, and in 1906 the Old Colony Steamboat Company was absorbed by the New England Navigation Company. When the traffic contract between the New London Steamboat Company and the Central Vermont Railway expired, in 1909, the Central Vermont Transportation Company was ready with the new freight propellers, *New York* and *New London,* and *Mohawk* and *Mohegan* were transferred to other of the New England's routes, principally, however, to run in the Providence Line freight service.

The New England Navigation Company had become the Consolidated Railroad Company in 1905, and a bit later New England Steamship Company. The title, New England Navigation Company, was resumed in February, 1906, but July 1, 1912, the title again became New England Steamship Company.

When, in 1899, it appeared that Providence was an open field, the Joy Steamship Company was organized by F. M. Dunbaugh, J. Allen Joy and Charles L. Dimon. Service was begun with the freighter *Rosalie,* but the Joy Line had hardly started when the Narragansett Bay Line came to serve Providence with *Richard Peck* and *C. H. Northam,* the latter running until the new *Chester W. Chapin* could be made ready for service. With such powerful competition from two splendid new boats, and the older railroad boats, the Joy Line retired. Within the year Chester W. Chapin had sold the New Haven Steamboat Company and its Narragansett Bay Line to the railroad interests. *Richard Peck* and *Chester W. Chapin* were sent to other routes.

With only one line in the Providence field, the Joy Line resumed in 1900, bringing on the steamers *City of Richmond,* a Maine boat, then known as *City of Key West,* and *Tremont.* The railroad owners abandoned the Stonington Line in 1900, and *Rhode Island* and *Connecticut* returned to run out of Providence. *Tremont* burned (in New York) at its dock in 1903.

The Joy Line acquired *Cumberland* and *State of Maine* which were renamed *Larchmont* and *Edgemont,* side wheelers from the Portland Steam Packet Company's fleet. *Richard Borden,* bought from the Continental Steamboat Company of Providence and renamed *Fairfield,* was put into freight service out of Bridgeport. The Joy Line was acquired by interests close to the New Haven Railroad in 1906 and November 1, 1907, it was taken over by the United States

Transportation Company, a subsidiary of the railroad. The same management continued under the new ownership.

Henry Whitcomb of Worcester, Mass., organized the Enterprise Line to run between New York and Fall River in 1905 and service was begun with two Maine boats, *Kennebec* and *Frank Jones*. The Joy Line had bought *Tennessee* from the Old Bay Line of Baltimore and had purchased *Kentucky*, formerly *Lincoln* when it ran in Maine, and later known as *Martinique*. *Tennessee* and *Kentucky* also went into the Fall River-New York service. The fight for business became bitter with the Fall River Line, Joy Line and Enterprise Line all fighting for a share, and the Enterprise Line quit in 1907. *Kennebec* was secured for the Joy Line and *Frank Jones* sold to the McAllister Steamboat Company.

The Joy Steamship Company (then owned by New Haven interests) was next operated by the management of the Hartford & New York Transportation Company. *City of Key West* and *Fairfield* were broken up. *Kennebec* was sold to McAllister Steamboat Company and later joined *Frank Jones*, the two then known as *Iroquois* and *Fenimore* and running as the Manhattan Line on the Hudson. *St. Croix*, which had been running to Providence, was sold for the Pacific coast and burned shortly after reaching western waters.

Larchmont was lost February 10, 1907, being run down by the schooner, *Harry S. Knowlton*, off the south shore of Rhode Island, and 125 passengers and crew were lost. Following the disaster the Joy Line shortly ceased to exist. In its stead the Hartford & New York Transportation Company organized the Bay State Line to serve Providence. It purchased from the United States Transportation Company (New Haven subsidiary) *Edgemont* and *Tennessee*, which it operated and *Kentucky*, which was sold for the Pacific coast and lost on the way on the North Carolina coast. *Edgemont* renamed *Cape May*, went to the Cape May-Philadelphia route in 1913.

Georgia was purchased in 1910 from the Old Bay Line for the Providence run, but in the first season of new ownership ran to Portland, Me., replacing *Horatio Hall*, lost off Nantucket Shoals. When *Northland* was completed *Georgia* joined *Tennessee* in the Bay State Line's Providence service. They were on this route in 1925.

ANOTHER PROMISE OF COMPETITION

Providence had seen many efforts to establish steamboat competition and was excited over the plans of the Grand Trunk Railway to

build a rail line with the Central Vermont, to Canada, and two new night boats connecting Providence and New York. *Manhattan* and *Narragansett* were built by Harlan & Hollingsworth Company in 1913, sister steamers measuring 3,539 tons, 320 feet length, 48 feet beam and 22 feet depth of hold, with 4,000 horse power twin screw engines. They were designed for first class and emigrant trade and were financed through securities guaranteed by the Central Vermont Railway. When Providence seemed assured of a strong competitor Chairman Hays of the Grand Trunk Railway died. Work on the railroad extension into Providence stopped, began again and was stopped. *Narragansett* and *Manhattan* lay at anchor in the Delaware River off Wilmington, and a year later the T. A. Scott Company towed them to the Central Vermont docks at New London where they tied up.

The Navy took both steamers in the World War, and they were strapped and plated for ocean trips and cross channel service. They did notable work ferrying troops between England and France. In the navy *Narragansett* retained its name and *Manhattan* became *Nopatin*. *Narragansett* went ashore on the English coast, was repaired and returned with troops to America. At the conclusion of the war the Hudson River Day Line purchased *Nopatin,* which was rebuilt and renamed *De Witt Clinton.* The other had been under water and the reconditioning cost for Hudson service was considered too great.

F. M. Dunbaugh, who had organized the Joy Line, returned to the Providence field, promoting the Colonial Line, incorporated June 3, 1910. Providence welcomed the new line, as competition, and it made its first trips June 15th and 16th, 1910, with *Concord* and *Lexington.* These had been *Washington* and *Norfolk,* when they ran between those cities, sister boats built by Harlan & Hollingsworth Company in 1891, of 1,248 tons, 246 feet length, 46 feet beam and 15.5 feet depth of hold and 1,700 horse power.

The frequent changes in title of New Haven Railroad's steamboat properties became a tangled web spread against the possibility of separation of the steamboat lines from railroad ownership. New Haven interests had also gathered in the Merchants' & Miners' Transportation Company, Winsor Line, the Maine Steamship Company, and the Eastern Steamship Company, which was operated through the United States Transportation Company, and the New Bedford, Martha's Vineyard & Nantucket Steamboat Company.

Federal administrations held the ownership of rail and competing water lines to be against public interest, and the feeling that the

steamboats might be divorced from their railroad owners arrested development and renewal of these properties. A liberal consideration of the issues involved, and with the approval of New England, decided public interest to be served in one ownership. Since rates are regulated by Inter-State Commerce Commission, while wages and items of operating cost are standardized and allowed profits under control, the public is protected and there may not now be the same need for competition as a regulator of fares, rates and service.

THE PROVIDENCE EXCURSION FLEET

Nowhere did people give themselves pleasures of steamboat excursions more than upon the waters of Providence River and Narragansett Bay and in the '70's, '80's and early '90's, Providence was a great port of embarkation for short trippers. Down the hillside marched excursionists, and bands played, while Dyer Street wharf was crowded with families and parties laden with shoe box and basket lunches. Steamboats departed every half hour "loaded to the guards" carrying more passengers than present laws permit. Excursionists who had ridden several hours in railway coaches pushed their way through Providence streets and mingled with the city population bound for the boats. Bells tolled and whistles shrieked. Steamboats filled rapidly with crowds that roamed all decks.

Bullock's Point and Rocky Point were clam chowder places featuring mechanical thrillers. Roller coasters clattered as cars took the big dips while women shrieked and children cried. Flying horses undulated rhythmically in their revolutions and riders stretched their arms to seize the lucky brass ring alone amongst many black ones. Peanut shells carpeted the ground and the aroma of buttered pop corn rode the air waves. The smell of a picnic place cannot be transplanted.

Bullock's Point became Crescent Park. Field's Point, Ocean Cottage (later called Boyden Heights), Riverside, Vanity Fair, Pleasant Bluffs and Mark Rock were other ports of call for the clam-hungry in proximity to Providence.

Then the steamboats pushed on for the quieter resorts of the bay and to Newport. Here the boats were met by "barges," two horse sight-seeing wagons with long parallel seats, which whisked away on long drives past the homes of the rich, while the drivers pointed out the houses, told the names of owners, and recited the newest scandals. The romantic stories told by drivers would seem mild perhaps in contrast with later-day backstairs gossip of high life.

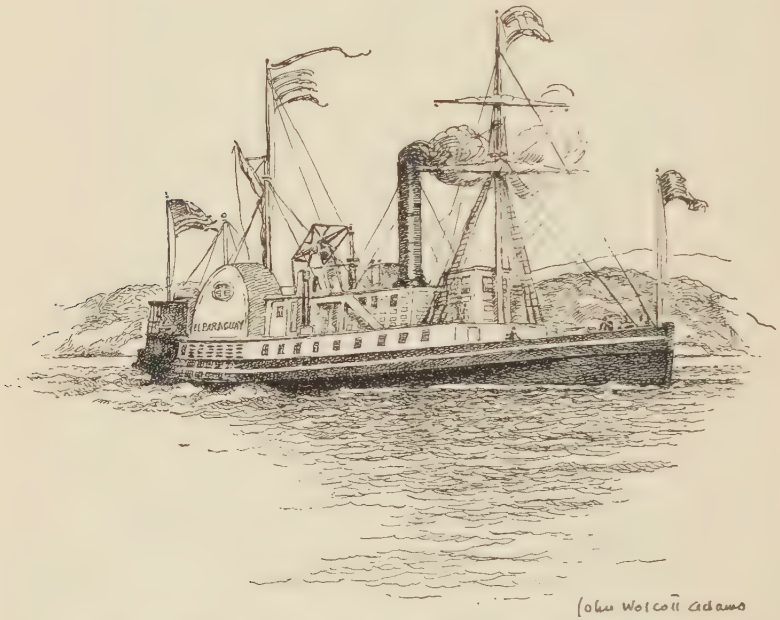
Newport kept itself hid, so far as it was able, through the noon day and early afternoon hours, and did not emerge for the fashionable driving until the "barges" had piled their passengers on the docks and the last steamboat had taken in its lines and started up the bay, but there were enough basket phaëtons and high-hung T-carts on the avenues to give trippers an idea of the fashionable Newport driving hours.

Hardy excursionists did not stop at the painted parks and jazz places or yet at fashionable Newport, but rode out to sea through the blue water to Block Island, with its quaint fishing-village character, then beginning its vogue as a fashionable resort. Swordfishing sloops, with pulpits built above the bow-sprits, dotted Block Island Sound and great beamy cat boats studded the horizon, carrying merry parties. Narragansett Pier and Sakonnet Point, facing the ocean respectively at the southwest and southeast of Narragansett Bay mouth, were visited by boats from Providence or Newport daily for many summers, but are no longer on the steamboat map. The changing tides were certain to kick up seas, and it is remarkable that so many thousands of passengers were carried by the Providence excursion fleet without serious accident. Seasickness was common, and the dead and wished-to-be-dead stretched in windrows through the cabins and on deck as the steamboats fought their way back to still water. Stops were made at resorts on the way up the bay and river until night closed in on tired and bedraggled crowds anxious only to get home.

Fifty thousand persons often spent Sundays and holidays on the river and bay. The crowds were strong partisans and waited patiently for a boat known to be crowded, and not due, while another less appreciated packet started home with plenty of room and prospect of earlier arrival. Not many steamboats now engage in Providence excursion service and 3,000 daily trippers is a high number. Something of the old flavor of steamboat excursions is gone. Folks later took their pleasures more quietly. Timbered resorts with hazardous thrillers, roller coasters, chutes and mazes are seared, ashen blots on the landscape, in many instances, and steamboat passengers, now, when they go ashore, appreciate nature unspoiled by carnival and concessionaires. Oil docks, tanks and switching yards occupy the sites of others, and a few resorts survive to be served by trolley and motor.

PROVIDENCE RIVER AND NARRAGANSETT BAY STEAMBOATS

Providence and Newport have been continuously connected by steamboat since 1822. As early as 1817 *Firefly* was on the route, lasting but a short time, as the sailing packets gave better service. From 1822 to 1847 Providence-New York steamers made the Newport stop and accommodated local travel. Boats exclusively in the



Roger Williams, rigged for sea voyage to South America as *El Paraguay*

bay service have been operating between the two cities since 1822, excepting the years 1825, 1827, 1836 and 1839 and occasionally other years in the winter months. One corporation, twice reorganized and renamed, has been operating on the route since 1865, sometimes with and sometimes without competition.

Earlier boats plying on this 30-mile route were *Bristol,* for a short season in 1822; *Providence,* in the summers of 1823-24; *Babcock,* 1826; *Rushlight,* 1828-35, with competition from *Wadsworth,* 1829-31; *Kingston,* 1837-38; Daniel Drew's *Balloon,* summers of 1840-41; *Iolas,* 1842-45.

Perry, Captain G. W. Woolsey, 255 tons, beam-engined, built in Brooklyn in 1846 for R. B. Kinsley of Newport, came to the bay when new and for twenty years ran steadily, at first on the Fall River-Newport and Providence-Newport routes, either on alternate days on the two routes or combining the runs in daily trips. Later she remained on the Providence run.

The Providence-Newport route was also served in 1846 by *Roger Williams,* Captain J. B. Woolsey, "new, fast and commodious," owned by Captain Woolsey and others and finally decided to be too fine and big a boat for her Rhode Island route. *Roger Williams* ran on the Hudson River through the late '40's and was fitted for sea at Boston, renamed *El Paraguay,* and went to South America, reaching Montevideo, but was pounded by the long open sea voyage and was broken up on arrival. *Eagle's Wing,* carrying an excursion from New Bedford to Providence, burned off Pawtuxet while racing with *Perry* in 1861. *Perry* and *Bradford Durfee* took off her crew and the three passengers aboard. Charles B. Smith, a survivor of *Lexington's* disaster, was engineer of *Eagle's Wing.*

BETWEEN FALL RIVER AND PROVIDENCE

Since 1827 an all-the-year steamboat line, usually making at least one round trip every week day, has been maintained between Fall River, Bristol and Providence. Until 1906 both passengers and freight were carried and since then freight only. From the inception of the line until 1895 it was under unchanged Fall River ownership—the Fall River Iron Works Company and Fall River & Providence Steamboat Company; titles changed but ownership the same. After that date and until 1906 the history of the line is part of that of the Providence, Fall River and Newport Steamboat Company which bought the boats and shore property. Since the last named date the Dyer Transportation Company, which for some years had been operating lighters on the route and acquired the P., F. R. & N. company's wharves and freight business, has alone performed the freight service between those ports. The P., F. R. & N. line continued to take summer excursionists from Fall River to bay resorts.

At its height, as in the '80's, the Fall River and Providence summer schedule provided three round trips daily each week day; at its lowest point, later, a small lighter's tri-weekly trips covered the field.

Bristol Ferry Wharf, on the Island of Rhode Island side, was a regular stopping place until recent years. This was an important

farm produce shipping point. It is related that one morning *Richard Borden,* in addition to her regular freight and a heavy passenger list, loaded 1,000 barrels of potatoes and brought them to Providence, "and was not much late."

Rates were cut to meet the rail tariffs. In some seasons ten cents paid for the 25-mile trip, while package ticket rates were lower. To accommodate excursionists from both termini stops were made for a few years at Mount Hope Park and Rocky Point without disturbance of the long unchanged regular schedule. Thus with commercial, commuting, shopping and excursion travel and a good tonnage of package freight, all carried at the same time, the line was profitable. When it began business railroads were unknown; before it finished the parallel railroads had been built and electrified and were running trains with street-car frequency. The boats lost money for several years before the passenger business was abandoned by the Providence, Fall River & Newport Company. The Fall River régime long owned three boats, running two on the regular line and employing a third in the summer for two or three bay trips weekly between Providence and Block Island and for charter excursions in the bay on other days. Long service with the company was the rule among employés.

The Fall River Iron Works Company began its Fall River and Providence Steamboat Line in 1827 with *Hancock,* Captain Thomas Borden. *King Philip,* Captain Benjamin Brayton, was built for the line in 1832, taking *Hancock's* place on the line and at times including Newport in her itinerary, daily or tri-weekly, and continuing 20 years without accident, until sold. *Bradford Durfee,* Captain Benjamin Durfee, was built next, in 1845, burning to the water's edge and sinking at Fall River berth in 1870, being raised and rebuilt and continuing until it went to pieces "like the one hoss shay" in Mount Hope Bay and was broken up in 1884. *Bradford Durfee* was 154 feet in length, carried passengers on two decks, had paddle wheels and a cross-head engine, and was speedy for her class. The passengers aboard when the final collapse came were taken off safely by fishing steamers. Captain Benjamin Durfee's successors included Richard Durfee, Amasa P. Orswell and Thomas Gannon.

Canonicus was built for the line in 1849 to run between Newport, Fall River and Providence, 178 feet length, 28 feet beam, 9 feet depth of hold and 540 tons and was commanded successively by Captains Childs, Simmons, Allen and William H. H. Borden. *Canonicus* was sold to the Government in the first year of the Civil War, used as a transport and took part in Burnside's North Carolina ex-

pedition, being repurchased after the war, and ran on the bay until 1888, under command of Captain Amasa P. Orswell. *Canonicus* became a Staten Island ferry and burned in June, 1894.

Metacomet, built for the line in 1862, was sold to the Government that year for a gunboat, becoming *Pulaski,* and never returned to the bay.

Richard Borden was added in 1874, built at Bull's Ferry and double ended, a side-wheel ferry type with pilot houses at each end and commanded by Captains Orswell, Durfee and Charles T. Mason. It was thought that *Canonicus* was too old for the Block Island route, so *Richard Borden* was planned to take her place. But *Richard Borden* was such a bad sea boat that two of its trips passed into history as hours of terror, and thereafter it was employed in the bay, where it carried throngs of short trippers, 1,500 capacity, all of whom gathered on the second deck. *Richard Borden* was 215 feet length and very wide. *Canonicus,* restored to the Block Island route, continued 14 years after the owners felt that she should be relegated to "inside" service.

In 1888 *Mount Hope* came from the builders and relieved *Canonicus* on the Providence-Block Island summer route. She was as great a success on this rough-water run as *Richard Borden* had been a failure. She was a little the largest, by tonnage measurement, of the boats used for bay service, and she has continued to be. As the Fall River & Providence Steamboat Company went out of business seven years later her story belongs to P., F. R. & N. line history.

The line earned a reputation for regularity, security and stability and, owing to the objections of a large stockholder, a woman, its boats never turned a wheel on Sundays. Captains Durfee and Orswell served the line more than 30 years and Engineer Stephen Collins and Clerk Seth R. Durfee more than 40 years.

When the Fall River Iron Works Company divided its various interests into five separate corporations in 1880 the steamer service was reorganized as the Fall River & Providence Steamboat Company. In 1895 the line sold its fleet and valuable wharf properties at Providence, Bristol, Bristol Ferry and Fall River to the Continental Steamboat Company, which then changed its name to Providence, Fall River & Newport Steamboat Company.

The American Steamboat Company was organized in 1865 by Benjamin Buffum to operate a line to Newport and run excursions. Earl P. Mason was the first president and Benjamin Buffum treasurer. The line began with *City of Newport,* built in 1863, succeeding *Eagle's Wing,* which burned; it also ran *Perry* until the advent

of *Bay Queen,* built in 1865 and abandoned in 1902, the bones lying in the mud at East Providence, and soon added *What Cheer,* built at Keyport, N. J., in 1867. The company was reorganized in 1876 as the Continental Steamboat Company without material change of ownership.

City of Newport was built in New York, 177.5 feet length, 28.5 feet beam and 8.8 feet depth of hold, measuring 561 tons. The engine was rated 750 horse power. In a long life *City of Newport* endeared itself to a great public, continuing to run until 1915. When the steamboat inspectors had passed sentence of death there was genuine regret. Old steamboat men shed tears when *City of Newport* went to the wreckers.

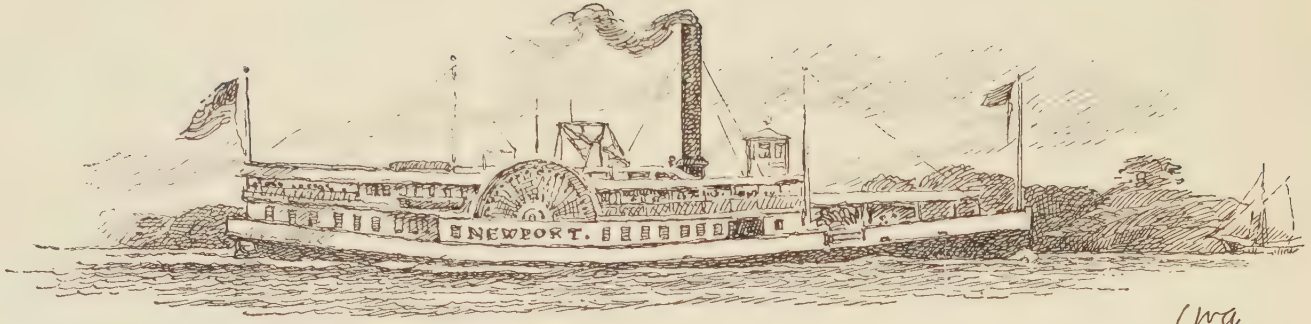
City of Newport's engine, built by Fletcher Harrison & Company, had previously been in a Great Lakes steamboat, and had lain on the bottom of Lake Ontario two years when recovered. The speed records of *City of Newport* may not have been excelled by bay contemporaries. Claims were made for *Mount Hope* of the same line and *New Shoreham* of a rival line, but *City of Newport's* partisans maintain that it held all bay records. *City of Newport* ran winters as well and for many years Captain George H. Kelly, who had previously been master of *Perry,* was her commander. Captain Moses B. Rich, who had been mate under Captain H. Kelly, ran *City of Newport* for several years. She had many skippers in the years ensuing, including Captains Sam Allen, N. B. Allen, Sam Rhodes, Jim Butler, Jesse Taylor and John W. Fuller. In her later years Captain H. Y. Stinson was the summer skipper while Captain C. B. Ricketson of *Mount Hope* was winter commander.

What Cheer, a small steamboat of the fleet, was often crowded by larger craft in the fight for landings. For its protection stout timbers were fitted into the bow, "whisker booms" which bristled like tusks, and *What Cheer* was known as "the boat with the horns." *What Cheer* was last commanded by Captain Joseph H. Spooner, who had risen from deck hand. *What Cheer* in 1917 came west to run between New York and Glen Island, sinking in Echo Bay, New Rochelle.

Montpelier and *River Queen* were in the line for a short while.

River Belle, built in 1872, ran several years on the bay, and burned a few years later in New York. The hull was built into the floating hospital, *Helen Juilliard,* for St. John's Guild.

Another long life steamboat, *Day Star,* was built at Bull's Ferry, N. J., in 1873, running regularly out of Providence for 30 years to Rocky Point and Newport as well as around Beaver Tail and out



Boatmen shed tears when *City of Newport* went to the wreckers

to the lightship and occasionally to Block Island; then, reincarnated and enlarged, as *Warwick,* served 20 years longer, extending trips to Watch Hill, New Bedford and Oak Bluffs. As *Day Star* it burned and as *Warwick* sank, mishaps which happened at the wharf, yet season in and out *Warwick* carried 2,000 passengers without accident. *Warwick* was sold to William Mills, New York, in 1923, and ran on an East River route in 1925.

Crystal Wave, built in 1874, was a two-stacker which later went to Bridgeport and to New York, running to Jersey beaches, and was sunk by a coast liner.

The Union Steamboat Company, organized in 1872 with E. H. Russell as general manager, for several years served the same resorts as the older company. *P. C. Schultz,* a North River side wheel towboat, *A. T. Serrell,* which later became a menhaden fisherman, and *Ida,* a small boat, constituted the fleet. The People's Steamboat Company, Arthur P. Dexter, manager, was organized in 1873 in connection with a land development project at Oakland Beach. The company entered the river trade with *Neversink,* Captain J. B. Parker, chartered from New York. In the ensuing two years it chartered *Jesse Hoyt, Long Branch, Josephine, Sunshine, Norwalk* and took over *P. C. Schultz* from the Union Company. This line connected Providence with Oakland Beach and Newport, besides giving a third competing service to the east side resorts.

When the railroad reached Oakland Beach steamboat days were ended for several years. In 1877 Oakland Beach was connected to Providence by *Frances,* built for Mobile-New Orleans service, and later running between Providence and New York. *Frances* was too big for Warwick Cove, about 230 feet length, and was the first iron hulled steamboat, it is said, to run in Long Island Sound. She was operated the following season between Providence and Cottage City and on other "outside" trips. *Frances* was owned by the Providence & Stonington Steamship Company and chartered to and commanded by Captain George B. Hull. The boat saw little use in the years 1879-91, but in 1892 she was sold to Sylvanus Lewis, who, with Captain Hull as partner and manager, ran her in the excursion business in Narragansett Bay and Block Island Sound in the summers of 1892-95. Her last excursion was with Providence passengers to witness the international yacht races off Sandy Hook in 1895, when her bow was damaged in a New York harbor collision. She was repaired and returned to Providence, but before another summer had been sold for scrapping.

After selling *Frances,* Captain Hull remodeled *Corsair,* a steam

yacht, for the excursion business, largely between Providence and Wickford or Saunderstown in connection with the then new trolley road to Narragansett Pier. *Corsair* ran from Providence in 1897-1905. She was last reported from Bridgeport.

In 1901 when the Continental Steamboat Company became the Providence, Fall River & Newport Steamboat Company, the boats owned were sidewheelers *Mount Hope, Bay Queen, City of Newport, Richard Borden, Warwick* and *What Cheer* and propellers *Rambler, Favorite, Squantum* and *Baltimore*. In 1924 the company owned *Mount Hope* and the propellers *Monhegan* and *Pomham* (ex *Baltimore*), the last named certificated as a freight carrier. At the time when it operated the most steamboats it had two and three competitors for several seasons, operating two to four boats each. All of these lines docked near the head of navigation on Providence River, in cramped quarters for steamboat operation and the spirit of rivalry was responsible for many exciting waterfront scenes, cutting of hawsers and occasional collisions.

There was big steamboat traffic in the days before Federal oversight was as strict as it became later, yet no disasters followed overcrowding. Jockeying for docks along the river was common and steamboat inspectors were kept busy canceling master's licenses, but ticketed men were always available. The manager of the Continental Line had a directory of every licensed officer in the district and drew on the list as needed. Lighters and other freight boats were pressed into Sunday and holiday service and carried passengers on deck. A half-hourly schedule was maintained to the shore resorts, Silver Spring, Bullock's Point (Crescent Park) and Rocky Point, tri-daily to Newport and daily to Block Island.

Mount Hope was built at Chelsea, Mass., in 1888 for the Fall River & Providence Steamboat Company and placed on the Block Island line, a remarkably lucky and profitable steamboat. Captain Charles Bradford Ricketson, who resigned in 1921 to follow all good sailors to a farm life, commanded *Mount Hope* for 22 years, having previously skippered other boats of the line, and before that was master of sail boats carrying mails between Newport and Block Island. Captain Ricketson began steamboating as quartermaster of *Canonicus*.

This was a period of uniform good fortune on a route that offers unusual tides and fog and wind. *Mount Hope,* allowed 2,000 passengers as far as Newport, has carried limit loads as a rule Sundays and holidays and relatively almost as large parties to Block Island. With wireless equipment this boat has been allowed 1,372 passengers

for the open water part of the route. *Mount Hope* ran 21 years without an accident which occasioned a delay. Old time commanders were A. P. Orswell, John O'Connor and Franklin W. Burton. Captain Ricketson's successors have been Moses B. Rich, George W. McVay, H. Y. Stinson and Fenner Ball.

When the Fall River & Providence Steamboat Company was sold *Richard Borden* and *Mount Hope* passed to the new company. *Richard Borden,* removed from her monotonous daily freight and passenger trip, Fall River to Providence and return, was worked early and late several summers on the excursion routes. Then she was sold to the Joy Line, Bridgeport division, being renamed *Fairfield,* and was later scrapped at Amboy.

The Shore Transportation Company was organized in 1885 with George B. Hull as manager to serve east-shore resorts. The hottest steamboat competition in the bay's history now began with the coming of the propeller *Baltimore,* built in 1881, and *Philadelphia,* built in 1882 at Athens, N. Y., originally planned for Chesapeake and Delaware canal service. *Mineola,* a Haverhill twin screw propeller, her engines often functioning anything but twinlike, was added and commanded by Captain Jim Butler, who once remarked when his line was refused by another boat, lying at a point where navigation is barred by a closed bridge, "This ain't no hoss and buggy—take a line or we'll go through the bridge."

Squantum and *Pomham,* propellers built at Newburgh in 1888, were added that year to the Shore Company's fleet—steel boats built for the company and designed for the route—and *Baltimore* and *Philadelphia* were released to their New York owners.

After six years of competition in which rival wharves were constructed at resorts only 100 feet apart, 1,200 inches as the advertisements said, and fences and barriers were placed across other wharves, only to disappear in the night on the end of a stout tow line, *Squantum* and *Pomham* passed to the old company, the Continental Steamboat Company. *Pomham* burned in Providence. *Squantum* continued in service until 1918, going to New York, where she was wrecked in a spring gale in 1924. *Philadelphia* went to Boston, then to St. John's River, Fla., as a towboat and next to the upper Mississippi, with Dubuque as home port. *Baltimore* returned to the Continental fleet, renamed *Pomham,* and continues in service.

The Providence, Fall River & Newport Steamboat Company, owned or chartered many other craft in the 20 years from 1900, including *City of Haverhill,* later *Mildred,* which sank on a route between Tampa and Havana; *Favorite,* now in Tampa Bay service;

Commodore, a Hudson River boat; *Hudson* and *H. A. Haber.* Earlier managements operated for brief periods *Montpelier* and *River Queen,* paddle boats, in the 1860's, and *Elaine,* a New York propeller, in 1916. It purchased *Monhegan* from the Blackstone Valley Transportation Company in 1920, placing her in passenger service as auxiliary to *Mount Hope. Monhegan* had been owned by the Eastern Steamship Lines, Portland-Rockland division, until it came to Pawtucket in 1918.

PAWTUCKET RIVER BOATS

The head of navigation on Seekonk River is Pawtucket, four miles above Providence harbor. *Charlotte and Isabella,* of harbor tug proportions, owned by the American Steamboat Company, was occasionally employed on the river in the '60's, and *Medora,* owned by Jeffers, fire engine builder of Pawtucket, and several other small steamers made excursions to Providence River points in the '70's.

James A. Moncrief, Robert M. W. Horton and James McLay of Pawtucket in 1882 formed a boat and marine building partnership and organized the Pawtucket Steamboat Company, operating boats from Pawtucket to Newport and bay points until 1916. Captain George H. Pond was senior master and superintendent for many years. Most of the boats were built at East Providence, 100 foot propellers. *Pioneer,* later *Pontiac;* a second *Pioneer; Peerless, Petrel, Planet* and *Pawnee* ran on this line. *Pontiac* was sold in 1916 for New York harbor. The line then ceased, the other craft having preceded *Pontiac* to other waters.

Efforts to establish a Pawtucket-New York line were made in the previous 30 years, but nothing resulted until 1917, when the Blackstone Valley Transportation Company was organized by business men of Pawtucket and vicinity, with James M. McCarthy, president, and George J. Kelly, general manager. Tri-weekly or daily service has been provided. The company's first purchase was *Sappho,* of Portland, Me., built in 1886, which previously had covered the Bar Harbor-Frenchman's Bay ferry route. The Maine Central Railroad sold *Sappho* to Governor W. C. Sproul of Chester, Penna., who used her for carrying war freight on the Delaware until the Pawtucket company bought and renamed her *Pawtucket.* She next carried freight on the Pawtucket Line to New York for a while and was rebuilt at Rockland, Me., in 1924-25 to increase her capacity. As a passenger boat *Sappho* was noted for beauty of exterior and interior and for having carried many congressional

parties, diplomats and other distinguished people to and from Bar Harbor. As the rebuilt freight boat *Pawtucket* she became more useful, in Long Island Sound at any rate, and admeasured 589 tons gross as compared with 275 tons originally.

The next purchase was *Monhegan,* built at Rockland, Me., 1903, for Captain Isaac Archibald, which served two years on the Pawtucket run before being sold to the Providence, Fall River and Newport Steamboat Company. In Maine waters *Monhegan* was known on the Portland-Rockland route for "cutting circles in 14-inch ice." The first winter on Pawtucket River she fully sustained her good name, although eight inches was as thick ice as that partly fresh stream could show. *Mackinac,* built at Ferrysburgh, Mich., in 1909, and well known on the Great Lakes, was purchased in Norfolk, Va. *Mackinac* is 162 feet length, 28.2 feet beam and 12 feet depth of hold, the largest steamboat regularly to navigate Pawtucket River.

Interests connected with the Blackstone Valley Transportation Company in 1921 bought *Mineola* (not the same as earlier mentioned), built at St. George, Me., in 1901 for the Eastern Steamship Lines. *Mineola* ran between Pawtucket and Newport in summer excursion service, being 121 feet length and allowed 500 passengers.

BRISTOL STEAMBOATS

Bristol's proudest days in steamboat history were the two years in which Jim Fisk's palatial *Bristol* and *Providence* alternated in lying at the railroad wharf through the daylight hours and departed nightly in a glory of music and light and confusion. That was in the late 60's. In earlier years the port was the midway landing place for Providence-Newport boats. For more than half a century Providence-Fall River steamers made stops there.

Daily passenger service between Providence and Fall River, stopping at Bristol and Bristol Ferry, was maintained from the earliest days until 1902. Many day boats served Bristol, notably *Bradford Durfee, Canonicus, Richard Borden, Mount Hope, Rambler* (formerly *Caroline A. Peene* of New York and now a New York lighter since the upper works burned in a Providence fire), *Bay Queen, Day Star* and *City of Haverhill.*

Two steamers which have hailed from and were in the exclusive service of Bristol were *David K. Phillips,* a Maine-built, 126-foot screw boat, which in 1877 and a year or two subsequently was operated for the carriage of rubber works freight between Bristol and

Providence, and the small Bristol-built passenger boat *Minnie V. Pope,* which carried parties to the bay resorts for a few seasons in about 1912. *Phillips,* later a porgy fisherman and then a naval auxiliary, in 1924 was fishing in Chesapeake waters. *Pope* passed in succession to Block Island and New Bedford owners. *Sagamore,* an 82-foot, Bath-built passenger propeller, not to be confounded with the Dyer Line lighter of the same name, has been stationed at Bristol by the Newport and Providence Railway Company for emergency as a relief or extra boat on the Bristol Ferry "short line," and for many years and until recently ran all over the bay and tributaries as a charter excursion craft. She has possibly touched at more different points in these waters than any other boat. She was formerly the yacht of Frank Jones, railroad president and brewer, of Portsmouth, N. H.

The Dyer Transportation Company has long covered the route between Providence, Bristol and Fall River with freight boats, at present with *Sagamore,* built at Bath, 1888, and *Ruth B. Lute,* built at Wilmington, Del., 1898, both of lighter type. *City of Haverhill* was also once owned by the Dyer Line. Earlier steamboats on this line were *Isaac Veazie, Border City* and *William Marvel.* The latter two were built in Fall River for the route in 1872 and 1875 respectively and now hail from New York, *Marvel* being rechristened *Sid.*

FALL RIVER EXCURSION BOATS

Fall River maintained excursion steamboats across Mount Hope and Narragansett bays to Rocky Point for many years. *Warwick,* making charter trips, has carried more passengers from the city of spindles than any other craft. The Continental Line at one time operated boats, Fall River to Newport, as annex to Block Island line.

King Philip (second of the name), built at Bath, 1883, when new, ran from Mount Hope Park and other bay resorts, later entering fishing excursion business from Boston. *Kelpie,* built at Salisbury, Mass., 1874 (first named *Everett*) plied several seasons between Fall River and Sakonnet Point. *Hough's Neck,* built at Boston, 1902, for Boston Harbor service, ran in 1915 on Taunton River and Mount Hope and Narragansett bays from Taunton and Fall River to Rocky Point.

Narragansett Pier was placed in steamboat communication with Newport and Providence at different times. *Florence,* a side wheeler,

connected the pier with the two Rhode Island capital cities in the early '70's, and in 1878 *Herman S. Caswell,* propeller, was built at Noank, Conn., and ran for a term to Newport, being later in the New York excursion fishing fleet.

The Continental Line made the Pier a way landing on the Providence, Newport and Block Island route in the '90's, *Mount Hope* and *Warwick* being assigned. A pier, resting on rollers on the bottom of the sea, was constructed at large cost, and reconstructed after each winter's storms. The line lost heavily because of the high upkeep. The pier was provocative of seasickness when passengers saw a boat from the wharf, or saw the wharf from a boat. *Oriole,* 50 feet length, built at Newport in 1889, was the last steam vessel on the route, withdrawing to enter Nantucket's fishing service.

To furnish Newport connection with New York trains at Wickford Landing in 1875 by a company which placed *Æolus* in service, followed by *Tockwogh,* from Chesapeake Bay; the latter boat burning, the line, which had come under New Haven Railroad control, was served by *General,* 130 feet length, a steel propeller built at Brooklyn in 1889. The line was not profitable in later years and the railroad abandoned winter operation in 1923.

Steamboat service between Providence and Sakonnet Point was maintained for 30 years, daily or twice daily in summer and less frequently at other seasons. Captain Horatio N. Wilcox was the pioneer steamboat man of Sakonnet River with his little boat *Dolphin* in 1886. It was the purpose to serve the farmers, fishermen and tradesmen of the communities bordering the river.

Captain Julius A. Pettey, who was, like Captain Wilcox, "one of the natives," saw greater possibilities. He bought *Queen City,* Maine-built, in 1887; organized the Seaconnet Transportation Company; added *Awashonks,* built for the company, in 1893; built a dinner pavilion at "the point" for the service of the day trippers; adopted a policy of encouragement of summer colonists, and when *Awashonks* burned, in 1901, brought *Islander* from Penobscot Bay.

Queen City burned in 1907 and *Islander* was sold in 1919 to go to New York. The Sakonnet River line had ceased a year or two before that, good roads and the automobile having made serious inroads into what had been a thriving river trade.

DEEP WATER LINERS RUNNING FROM PROVIDENCE

The Clyde Line operated a few seasons between Providence and Charleston, Brunswick and Jacksonville, beginning in May, 1900,

sailing from what is now the Colonial Line wharf. The Winsor Line of the Boston & Philadelphia Steamship Company connected Providence and Philadelphia. Its history is part of that of the Merchants' and Miners' Line, which since the 1850's has been a large factor in Providence transportation. The Varley Line, in 1890, brought fruit from Jamaica, but the United Fruit Company took over the "V" Line and its ships. The steamers, some chartered foreigners and some new and American built, were diverted to other ports.

The Fabre Line began to run from Providence in 1912 and provided sailings every two weeks for the Azores, Marseilles and Lisbon. The Fabre steamship *Providence,* built in Toulon, France, and launched in 1914, in the week that saw France embarked in the World War, did not enter commercial service until the great struggle ended. Then after a celebrative call at Providence she was put on the New York-Mediterranean run and has visited Rhode Island waters only occasionally since. *Madonna* was the first of the line to come to Providence and has been followed by all of the passenger vessels of the line, but *Roma* has made the most calls, as she served with regularity throughout the war.

Norton Lilly & Company, general agents for the Isthmian and Argonaut Lines, have for the past few years operated ships to Puget Sound ports, by way of the Panama Canal, San Pedro, San Francisco and Puget Sound, bringing back lumber and carrying west general cargo and manufactured goods. Steel was brought out of the Birmingham district from Savannah in 1920 by *City of Atlanta,* which plowed into *Cape Fear,* a concrete boat, in Newport harbor. The crew of *Cape Fear* could not climb the ladders as fast as *Cape Fear* settled and "she sank like the stone she was." One trip by a Manchester, England-Providence line was made since the World War by way of experiment to see if trade with northern Europe could be established.

CHAPTER XI

Block Island Steamboats

BLOCK ISLAND has been connected with Providence, in the summer seasons, continuously since the early '70's by two steamboats in succession, representing one line; *Canonicus* until 1888 and since by *Mount Hope,* two fortunate boats. *Mount Hope* did not lose a single trip in 21 years until a main shaft broke, thus shortening her season by a few days. Summer daily service, Sundays included, with Sunday the "biggest" day in the week, was begun by Mount Hope in 1895. Before that time the Providence boat had come out to the island two or three days a week. In the earlier years, before the building of the breakwater and basin on the east side, landings were made from small boats and were dependent on weather conditions.

After 10 years' agitation *New Shoreham* was built in 1901, a municipally-owned vessel, 151 feet length, 28 feet beam, 11.8 feet depth of hold. The building of *New Shoreham* by the town divided the island into two camps. To minimize the losses of year-round operation, *New Shoreham* was leased to railroad interests, and the best proof of the right to political favor on the island was a local statesman's success in obtaining a renewal of the lease. Once Kit Champlin, island boss, had difficulty in effecting a new lease because $15,000 was needed for new boilers, but a political aspirant was tapped for the money.

The railroad management of *New Shoreham* paid the island town no rental, but compensated by operating the boat through the unprofitable cold season. This was one of the main arguments for the building of the boat as a public-ownership undertaking. "East-side" and "west-side," old harbor and new, rival groups of hotels and merchants, were also factors in the island war. It was charged that *New Shoreham* was designed with exceptionally deep draft to assure her use of the new harbor only. The town elected a board of steamboat commissioners to handle the transportation question. With changes of board policy it happened twice that *New Shoreham* was leased for short terms to the owners of the rival *Mount Hope.* On the last occasion Captain Ricketson, *Mount Hope's* long-time

master, temporarily in the other craft, "astonished the natives" by taking *New Shoreham* to the Old Harbor landing, where the west siders had vowed she never could or should go. Thus one steamboat tradition was shattered.

Running true to form in public ownership of transportation utilities, Block Island taxpayers have piled up a formidable town debt due to boat operation.

A lease of *New Shoreham* that promised a money profit was made in 1916 to the Providence, Fall River & Newport Steamboat Company, which operated *Mount Hope* and proposed a schedule of two boats a day, morning and afternoon, each way in summer, *Mount Hope* starting from Providence and *New Shoreham* from Block Island. The lessees proposed to keep one boat in service throughout the year. This double service promised a boon to the island where the two boats had previously run in competition at the same hour.

Mount Hope and *New Shoreham* met *Nassau,* formerly *Old Glory,* in competition and the mail contract was obtained for *Nassau.* In consequence of this new division of traffic the plan for double service was abandoned, and when a fire occurred on *New Shoreham* the boat was returned to the owners with the insurance award.

Mount Hope and *New Shoreham* went back to the old plan of trailing along together on the same timetable, each "doing her prettiest" and the officers of the overtaken boat trying to look pleasant when the overtaking one is able to give three triumphant blasts of the whistle. Sometimes an insinuating hawser is proffered from the head craft as an invitation to take a tow. The atmosphere is charged with the competitive spirit, the newspaper "ads" breathe it, passengers and crews and everybody on the island share it. The "deadly rivalry" has gone on this way for nearly 25 years.

Block Island was early connected with New London and Norwich by *Escort, G. R. Kelsey, Fanny, Favorite* and *Golden Gate,* and for many years by *Ella* and *Block Island,* now tied up at Newport. *Block Island* was built at Noank in 1882 for the New London Steamboat Company, 187 feet length, 33 feet beam, 11.6 feet depth of hold. *New Shoreham* ran to New London for a while in extension of her Providence trips, and in another season to Stonington. *City of Lawrence* was rebuilt for the Block Island service, but hit an uncharted rock and was lost. *G. W. Danielson* was the old island standby in year-round service, connecting Providence before *New Shoreham* was built. *G. W. Danielson* was later the oyster boat *Americana* and is now the New York harbor lighter *Barton Brothers.*

Montauk, an old paddler, ran for a time to Block Island from Fort Pond Bay and Long Island Railroad connections, followed by *Shinnecock,* built at Wilmington in 1896 for this run, 260 feet length, 33 feet beam, 14.3 feet depth of hold and 1,600 horse power. *Shinnecock* was a popular favorite in the Sound for many years and during the World War was used as a barracks at Quarantine Station, New York harbor. Following came a second *Montauk,* formerly *Queen Caroline,* built in 1902 at Baltimore, 193 feet length, 30 feet beam, and 11.2 feet depth of hold. Next was *Greenport,* formerly *Sagadahoc,* originally *Star of the East. Shinnecock* made three round trips weekly between New York, Greenport and Block Island for several summers—a schedule so exacting that the nickname "Perpetual Motion" was given the boat. After a long lay-up at Whitestone, L. I., *Shinnecock* was reconditioned in 1924 and placed on the New London-Sag Harbor run to replace *Wyandotte.* Second *Montauk* in 1923 was sold to Ford automobile interests, changed to an oil-burning freighter, renamed *Transford* and set at carrying automobiles from Kearney, N. J., to Providence.

In recent times *Island Belle,* ex *Juliette, Nelseco II,* a motor ship, *May Archer* and *Cape Cod* ran between Block Island and New London, and in 1922-25 *May Archer* ran to Newport and Providence from the Island. She is now the all-the-year mail boat.

CHAPTER XII

Steamboats of Nantucket Sound

NANTUCKET SOUND steamboating began with *Eagle* in 1818, built at New London, and made its first trip to Nantucket, May, 1818, being 92 feet length, 17.8 feet beam and 6.8 feet depth of hold, measuring 80 tons. The bow was ship design, with figurehead, and the stern rounded. Steam was generated in two copper boilers. In July it towed the whaleship *George* into Nantucket harbor, and so was the first towboat in Cape waters. *Eagle* made regular trips for three months, but operation was unprofitable, and it was sold in September for the Boston-Hingham route, continuing until 1821, when it was sold, the copper boilers then realizing, as scrap, the first cost.

Captain R. S. Bunker brought *Connecticut* to Nantucket May, 1824, in an effort to promote steamboat service, but nothing resulted. *Connecticut* returned in 1828, towing a harbor dredge.

Barney Corey and James Hathaway of New Bedford placed *Hamilton* in island service in the spring of 1828. *Hamilton* was a small craft of 50 tons, without sufficient power to best wind and tide and only crossed Nantucket Sound with most favorable weather conditions. *Hamilton* ran three months and then went to the Hingham route when its name was changed to *Lafayette.* A few years later it was broken up.

Jacob Barker financed a new steamboat when New Bedford and Nantucket capital was timid and in 1829 *Marco Bozzaris,* Captain Edward H. Barker, made its first trip. Fitzgreene Halleck, poet, then a clerk in Merchant Barker's New York office, had just penned the four opening lines of his masterpiece when Barker inquired: "What are you writing this morning?"

"Oh, just a few stanzas, while I was waiting for you to come in," replied Halleck.

"Let me read it and see how it sounds," said his employer, who was the first to read:

MARCO BOZZARIS

At midnight, in his guarded tent,
The Turk was dreaming of the hour
When Greece, her knee in suppliance bent
Should tremble at his power.

Eagle was the first steamboat to serve Nantucket, in 1818

"Good," exclaimed Barker, "that is just the name for my steamer."

Marco Bozzaris was 140 tons. Frequently it abandoned its regular run to carry excursions, some parties numbering 200 persons. In June, 1831, it made attempt to burn coal, but the copper boilers were not fitted with suitable grates. In 1832 it began to make three trips weekly with $2.00 fare, but was not a profitable venture, as the fast sailing packets enjoyed the islanders' support. That year *Marco Bozzaris* was sold in New York to run later on the Delaware River, and it went ultimately to South America.

Chancellor Livingston, Captain Coggeshall, came to Nantucket with an excursion party of 300 from Boston, but drew too much water to pass over the bar and *Marco Bozzaris* brought the visitors to town, and in the late afternoon put them aboard *Chancellor Livingston,* waiting outside the bar.

Nantucket merchants promoted *Telegraph,* built in 1832, coming on in October in charge of Captain Edward H. Barker; 171 tons, 120 feet length, 19.6 feet beam and 7.6 feet depth of hold, with paddle wheels 17 feet diameter. The low pressure boilers were copper and burned wood. Steam was then measured by notches on a stick, and it was recorded that "with eleven inches of steam she developed 60 horse power."

When *Telegraph* had been operating some months, the informal association of owners was incorporated as the Nantucket Steamboat Company, which was to continue almost 25 years. In spite of the modest investment of *Telegraph,* which cost $11,000, the company was only moderately successful.

In 1842 *Telegraph* was joined by *Massachusetts,* 308 tons, which cost $39,137.01, a side wheeler with cross-head engine, 161.2 feet length, 23.11 feet beam, 8.4 feet depth of hold and commanded by Captain Lot Phinney. Had the two steamboats enjoyed all the island's business they might have prospered, but the sloops continued to share the traffic and the boats did little more than earn their keep, as passenger carriers.

Their income was increased from wrecking, towing and salvage. The company declared its eleventh dividend in ten years, in 1843, apportioning $5,030 to 2,012 shares, but thereafter its dividend record was disappointing. A big windfall came in 1847, when the Board of Underwriters awarded $31,000 to the company and crews of *Telegraph* and *Massachusetts* for saving the New York-Havre packet ship *Louis Philippe,* which stranded about a mile and a half from Tom Nevers Head, December 17, 1847.

Nashon, operated by the New Bedford & Martha's Vineyard Steamboat Company, began a tri-weekly service between Edgartown and New Bedford March 23, 1846, calling at Falmouth and Woods Hole. The expenses were $700 more than the receipts of 1847 and the following April *Nashon* was auctioned for $15,500 to an association of New York newspapers, the *Sun, Journal of Commerce, Herald, Courier* and *Express,* for obtaining marine intelligence off Sandy Hook, and the name was changed to *News Boy,* which finished in the Coney Island excursion business.

An effort was made in 1848 to organize service between Hart-

Massachusetts, towing a ship over Nantucket bar in a "camel," or floating dock

ford, Connecticut River landings, New London and Nantucket with the steamer *Osceola,* but after six unprofitable trips the line was abandoned.

The Nantucket Steamboat Company abandoned New Bedford for Hyannis in 1854, being a shorter water passage and a better rail connection to Boston. This left an opening for the Martha's Vineyard Steamboat Company, which had been organized in 1851, and it extended its line to Nantucket. The organization of the New Bedford, Vineyard & Nantucket Steamboat Company in 1854 resulted in two opposition lines for Nantucket. While a new boat was being built to connect New Bedford *George Law* filled in during the fall of 1854. *George Law* was built in New York in 1852 by Thomas Collyer, 151 feet length, 22.6 feet beam and registered 240 tons.

The new steamer was *Eagle's Wing,* Captain Barker commanding and Amasa Whitaker engineer. *Eagle's Wing* was 439 tons, 173 feet length, 27 feet beam with a walking beam engine, the first to be seen in Nantucket waters. The following year Captain Barker went to Lake Erie to command *Plymouth Rock,* running between Buffalo and Detroit, and Captain Benjamin Coffin Cromwell succeeded to command. Later, Captain Thomas Brown commanded *Eagle's Wing* when it ran between New Bedford and Edgartown.

Fall River and Providence capitalists built *Metacomet* in New York, 1854, to run between Edgartown and Fairhaven, connecting with the Fairhaven branch of the railroad, and in opposition to *Eagle's Wing. Metacomet* was commanded by Captain Ben Simmons, and was 395 tons, 119 feet length, 26 feet beam. George B. Orswell was engineer. Neither *Eagle's Wing* nor *Metacomet* made money, fighting each other, and in 1857 *Metacomet* was withdrawn, being sold a few months later to the government, entering the Navy as the gunboat *Pulaski.* In 1863 it was sold at Montevideo, and was running on the River Platte in 1870.

The Nantucket Steamboat Company continued until 1855, when in August it was consolidated with the Nantucket & Cape Cod Steamboat Company. Nantucket and Hyannis capitalists joined in building a new steamer, *Island Home,* Captain Thomas Brown being the first commander and John M. Thomas the first engineer. *Island Home* came on September 6, 1855, being welcomed at Nantucket by *Massachusetts,* Captain A. B. Robinson from Hyannis, and *Eagle's Wing,* Captain B. C. Cromwell, from New Bedford.

Island Home was 184 feet length, 29.8 feet beam and measured 536 tons. The Morgan Iron Works built the engine. *Island Home*

Scurrying into clothes before the steamboat arrives

ran to Hyannis until the completion of the Woods Hole branch of the railroad in 1872 and then ran to Woods Hole. *Island Home* rendered splendid assistance to many vessels in distress and was sold in 1895, becoming a coal barge, after a magnificent career of 40 years. For 30 years Captain Nathan H. Manter was commander, rounding Brant Point more than 40,000 times.

Jersey Blue, a propeller, Captain Nathan B. Kelley of Nantucket, inaugurated direct service, Nantucket to New York in 1856, but quit the following year. *Jersey Blue* was slow, hardly making eight miles' speed, and frequently sailing packets made better time.

The old *Telegraph* was renamed *Nebraska* in 1854 because of the interest taken by the islanders in the Kansas-Nebraska controversy. While the name *Nebraska* was painted on the sides, the stern still carried the old name *Telegraph*. *Massachusetts* and *Telegraph* were sold July 5, 1858, to Captain Emerson, Keyport, N. J. *Telegraph* was later scrapped, while *Massachusetts* became *John W. D. Pentz,* being remodeled for service on the Chesapeake between Baltimore and St. Michaels, and was running from Baltimore in the '80's.

Monohansett came on in 1862 to replace *Eagle's Wing,* destroyed by fire in 1861, and built for the New Bedford, Vineyard & Nantucket Steamboat Company, inheriting *Eagle's Wing's* engine. During the Civil War *Monohansett* carried dispatches to the fleet operating between Wilmington, N. C., and Cape Hatteras and later on Chesapeake Bay and the Potomac River. *Helen Augusta,* a propeller, came on in 1865, remaining until *Monohansett* returned in June, 1866. For twelve years *Helen Augusta* was a freighter and towboat in Buzzard's Bay and Vineyard Sound.

Monohansett returned to the Vineyard route and occasionally made other trips. Forcing its way through the ice in many winters it opened communication when weather had cut off the island ports. *Monohansett* continued in Cape waters until 1900, when it was sold to the Beverly Transportation Company, operating the North Shore Line out of Boston. In June, 1904, *Monohansett* went ashore on Misery Island, Salem harbor, in fog, and was a total loss, then 42 years old.

River Queen, built at Keyport, N. J., in 1864, was taken, following launching, for General Grant's personal dispatch boat in the last year of the Civil War. It was aboard *River Queen* that the conference between President Abraham Lincoln and A. H. Stephens, Vice President of the Confederacy, was held. Lincoln frequently rode on *River Queen* and was aboard 48 hours before his assassi-

nation. Captain Nathan B. Saunders, long time captain of Fall River liners, commanded *River Queen* when she was the favorite of Lincoln and Grant.

With such a splendid Civil War history *River Queen* was a favorite steamer when it was bought by the Vineyard Company to

Old paddlers maintained a blockade of the South in the Civil War

connect with the railroad extension to Woods Hole, replacing *Monohansett,* then chartered to the Old Colony Railroad. *River Queen* ran on this route in 1871 and '72 and the following year began to run with *Island Home,* continuing eight years in Nantucket Sound service. The Nantucket & Cape Cod Steamboat Company bought *River Queen* for $60,000.

The service was doubled up in 1874, and two-boats-a-day schedule maintained to Nantucket. Sunday trips began in 1875. *River Queen* was commanded by Captain George H. Brock during this period and was chartered for excursion business in New York harbor in 1881, but returned in 1891 to fill in for *Nantucket,* undergoing boiler repairs. Following, and for 20 years, it was operated by the Mount Vernon & Marshall Hall Steamboat Company on the Potomac out of Washington. Beginning in the service of two presidents, Lincoln and Grant, *River Queen* carried thousands of visitors to George Washington's Mount Vernon home.

Martha's Vineyard was built in 1871 for the Vineyard traffic and was 171 feet length, 28 feet beam and fast, continuing to run regularly until 1886 when the Nantucket & Cape Cod Steamboat Company and the New Bedford, Vineyard & Nantucket Steamboat Company were merged, the new company being named New Bedford, Martha's Vineyard & Nantucket Steamboat Company. Thereafter *Martha's Vineyard* was used as a spare boat. Andrew G. Pierce had operated the Nantucket & Cape Cod Steamboat Company as agent, in connection with the New Bedford, Vineyard & Nantucket Steamboat Company for five years previous to the consolidation. *Martha's Vineyard* became *Keyport* and ran to Keansburg and sank off the Battery sea wall, New York.

The new company built *Nantucket* for the Nantucket route in 1886, of 629 tons register, 190 feet length, 33 feet beam. The engine had cylinder 48 inches diameter by 10 feet stroke. *Nantucket* was commanded by Captain Charles C. Smith and later became *Point Comfort* and sank on Esopus Island in the Hudson River in 1918.

Gay Head came out in 1891, largest of the fleet, a side wheeler without fan paddle boxes. *Gay Head* is 701 tons, 203 feet length, 34 feet beam, 5.6 feet draught with beam engine by Pusey & Jones Company, Wilmington, Del., having cylinder 50 inches diameter by 10 feet stroke, and the wheels carried revolving buckets. *Gay Head,* when it first came on, was commanded by Captain A. P. Bartow, followed by Captain Charles H. Fishback, Captain Charles H. Coulter and Captain J. W. Merriman. *Gay Head* was sold in 1924 to Charles Dimon, New York, becoming *Pastime.*

Uncatena, a side wheeler of 652 tons, followed in 1902, being 187 feet length, 31 feet beam, 54 feet over guards with engine having cylinder 42 inches diameter by 10 feet stroke. *Uncatena* was built for the Vineyard route, the first steel-hulled vessel of the fleet, and made 15 miles' speed.

Sankaty, a propeller, was added in 1911, designed by Chauncey G. Whiton, agent of the line, for rough water met in crossing from New Bedford and Woods Hole to Nantucket. *Sankaty* measures 195 feet length, 32 feet beam at water line, 36 feet beam on deck, 13 feet depth of hold and 9.6 feet draught. *Sankaty's* engine is triple expansion type with cylinders 17½, 27 and 44 inches diameters by 24 inches stroke, turning a wheel 8.4 feet diameter by 12 feet pitch, 140 revolutions per minute, making 16 miles' speed. Four Almy water-tube boilers have 6,250 square feet of heating surface, 160 square feet of grate, carrying 200 lbs. working steam pressure. *Sankaty* was lost in 1924, being replaced in 1925 by *Nobska,* built at Bath, Me., of practically the same dimensions as *Islander.*

A smart new propeller, *Islander,* built at Bath, Me., 1922-23, is 210.3 feet length, 50 feet extreme beam, with 2,000 passenger capacity. The engine is four cylinder, direct acting triple expansion surface condensing balanced type producing 15 miles' speed. The latest steamer is fitted with bilge keels, with large accommodation for freight and motor cars. The deck houses are steel and the cost $300,000.

The New Bedford, Martha's Vineyard and Nantucket Steamboat Company has maintained a record for high earnings, and in several years made the best showing of any of the New Haven Railroad's properties.

CHAPTER XIII

Massachusetts Steamboats

NORTH SHORE ROUTES

STEAMBOATS were considered to be practical for sheltered waters, but fear of open water delayed their introduction to coast ports. Salem and Portsmouth capitalists built *Massachusetts* in Philadelphia in 1817, "about 100 feet long and 120 tons measurement." The drive was through oar-like side paddles moved forward and back in gangs in the hope of avoiding Fulton patents. The hull followed ship design with full bow and square stern.

The Massachusetts Steam Navigation Company with $330,000 capital was chartered June 16, 1817. *Massachusetts* was not successful and was sold at auction to Captain Charles Vanderford for $5,200 and resold to Francis H. Story, a Salem merchant. *Massachusetts* started for Mobile, December, 1817, but was wrecked off Little Egg Harbor, N. J. Engine and rigging salvage may have been built into a new *Massachusetts* which ran between Boston and Salem in 1820. "The steamboat *Massachusetts,* Captain John Wood," was advertised in 1820 to run "from Boston to Beverly, touching each way at Nahant, Marblehead and Salem." *Eagle,* built by Gilbert Brewster at Norwich, Conn., from Nantucket, ran between Boston and Salem in 1820-24, being then broken up.

Connecticut, Captain Porter, and *Sandusky* ran from Salem to Boston with call at Nahant in 1834 and '35 and that year *Fanny,* Captain A. Marsh, began regular trips. *Fanny* was about 100 tons, 88 feet length and fitted with crosshead engine, described as "elegant and fast running." *Sandusky* was built in 1825 and had run on the Hudson.

The Eastern Railroad connecting Boston and Salem, opened in 1838, killed steamboating until July, 1851, when the Salem & Lowell Steamboat Company was organized to connect with trains of the Salem & Lowell Railroad Company, *Merrimack* running to Lowell Island. *C. Durant* served for a short time, followed by *Arago* in 1853. *Arago* had been built at Perth Amboy in 1845 and was later

a Civil War medical supply boat, returning to the Penobscot and being broken up in New York in 1879.

Patent ran between Nahant and Boston in 1825 and *Ousatonic,* Captain Frank Johnson and Captain Faneuil Silsbee, from 1826 to

When grandsires and steamboats were young

'30. Down through the years these steamboats ran between Boston and Nahant, except in 1884 when no steamboat served; *Rush Light,* Captain Burnham, 1831; *Fanny,* Captain Henry, 1832; *Connecticut,* Captain Porter, 1833-34; *Hancock* and *Fanny,* Captain Marsh,

1835-36; *Mt. Pleasant,* Captain J. Gillespie, 1837; *John Jay,* Captain Schultz, 1838; *Thorn,* Captain W. H. Byram, 1839-40; *Hope* and *Flushing,* Captain Van Pelt, 1840-47; *Nahanteau,* 1848; *King Philip,* 1849; *Suffolk,* 1850-51; *Norwalk,* 1852; all commanded by Captain B. F. Vetts; *Clifton,* Captain Carr, 1853; *Nelly Baker,* Captains A. L. Rouell, F. Covell and Calden, 1854-61; *Nequiset,* 1862 and *General Berry,* 1863, Captain T. J. Gerry; *Clinton,* Captain Kilby, 1864; *Orient,* Captain Kilby, 1865; *Ulysses,* Captain A. W. Calden and *Meta,* Captain Rouell, 1866-76; *Eliza Hancox,* Captain Calden, 1877; *E. Hancox* and *Nahant* (afterwards *General Lincoln,* second), Captain Calden, 1878-83; *General Bartlett,* Captain J. B. Ingersoll, 1885; *Julia,* Captains Gazet and Lund, 1886-87; *Anita,* Captain J. B. Ingersoll, 1888-89; *Frederick de Barry,* Captain T. W. Lund, 1890; *Frederick de Barry* and *City of Jacksonville,* Captain T. W. Lund, 1891-1903; *Mt. Desert* and *Beebe,* 1904; *New Brunswick* and *Favorite,* 1905; *Cimbria* and *Pokanet,* 1906; *General Lincoln* (second) and *Governor Andrew,* 1907-10; *General Lincoln* and *Cape Cod,* 1911; *General Lincoln* and *Martha's Vineyard,* 1912; *General Lincoln* and *Machigonne,* 1913; *General Lincoln, Machigonne* and *Nassau,* 1914; *General Lincoln* and *Machigonne,* 1915; *Machigonne* and *Nassau,* 1916.

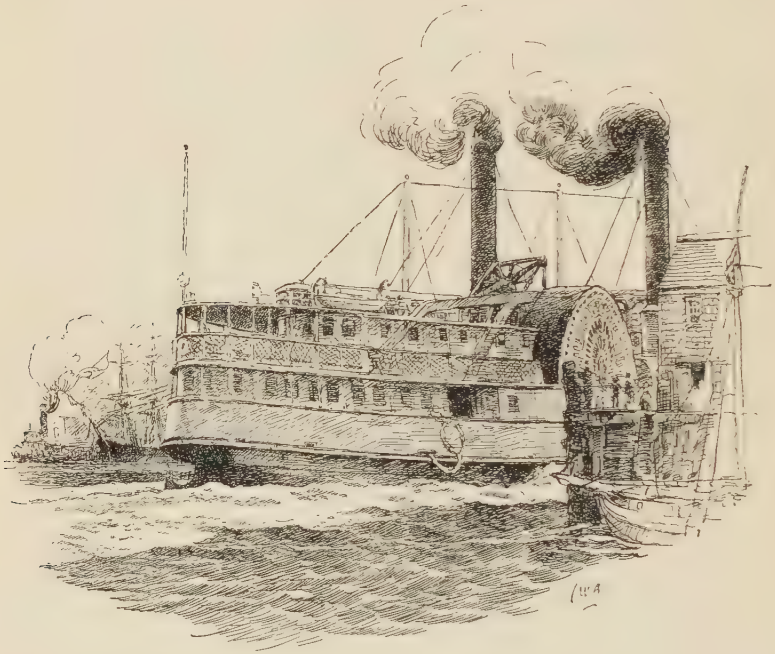
In recent years *General Lincoln* made short runs about New York harbor. *Machigonne* went into Government service in 1917 and *Nassau* was returned to the Montauk Steamboat Company. The regular line was opposed in 1872 with *Meta,* Captain Rouell, and *Carrie* which ran through to Lynn. One of the old New York commuting steamboats, *Harlem,* ran to Point o' Pines in 1882, and from 1892 to '99 *Shoe City,* a propeller, and *Putnam* ran to Lynn.

Nelly Baker was named for the daughter of Mayor Baker of Lynn, president of the Nahant Steamboat Company, and was one of the fastest and most popular of early steamboats. *Nelly Baker* was built by Samuel Sneden, New York, in 1854, being 303 tons, 153 feet length, 26 feet beam and 8.6 feet depth of hold. The engine had cylinder 32 inches diameter by 10 feet stroke. In the Civil War *Nelly Baker* served as hospital ship and transport and was bought by Grey Brothers from the Government in 1866.

Lawrence, Captain J. Flowers, built to run between Newburyport and Haverhill, ran in 1855 between Salem and Boston, calling at Marblehead and Nahant. *Escort* ran from Boston to Lowell Island, Salem and Gloucester, 1869-71, followed by the propeller *Mischief* in 1872 and *Three Brothers* and *Fanny,* small propellers.

A line connecting Salem and New York in 1871 to carry cotton

in connection with the railroad, employed *William Tibbetts, Norwich, Alliance* and *Zodiac,* wooden propellers. *Watertown* ran between Beverly, Salem Willows, Marblehead and Boston in 1890 and '91, and in 1892 to Lynn, but burned that year off Point Shirley. The Boston & Portsmouth Steamship Company ran the propellers *Philadelphia* and *Baltimore* in 1892, succeeding to *Watertown's* run, continuing several years.



A night boat letting go the stern line

Admiral, ex *Augusta,* ran to Baker's Island and was lost by fire while laid up at Beverly in 1888. *S. E. Spring, Surf City,* Captain Dalby, and *City of Portsmouth* followed, the latter going ashore and lost by fire August 25, 1894. In later years these boats ran between Salem Willows and Boston: *John Endicott* and *William Storie,* 1895, '96, '97; *New Brunswick,* 1896-97, operated by the Morrison Steamboat Company, and in 1898 *O. E. Lewis,* owned by William Stopford & Company; *Surf City* sank July 4, 1898, but was raised, being renamed *Pauline,* and went South.

City of Haverhill served in 1902-03, calling at Gloucester. *New Brunswick* ran for the Union Steamboat Company, 1900-02, and *Monohansett,* until it went ashore in the fog between Little and Big Misery Islands, August 3, 1904. *May Archer* ran from January to March, 1913.

Gloucester long maintained steamboat connection with Boston. *Yacht* made irregular trips before the Gloucester branch railroad was opened in 1847, and in 1849 *Jacob Bell,* Captain H. Cumminsky, but it was not until 1859 that year-round service was begun by the Boston & Gloucester Steamboat Company, incorporated that year. *Mystic,* 200 tons, built in 1852 at Mystic, Conn., began the service and continued to 1863 when taken by the Government. *Regulator* followed for a season and after the war *Charles Houghton* and *N. P. Banks.* The route was covered in 1870 by the side wheelers *Emeline* (formerly *Nantasket,* first); *Escort,* Captain Pierce; *Stamford,* Captain Davidson; *W. W. Coit* and *Admiral,* Captain Gilkie.

The present Boston & Gloucester Steamboat Company was organized in 1875, beginning with *J. W. Todd,* followed by *Ella Knight,* built at Philadelphia in 1863, *George A. Chaffee, City of Gloucester* in 1884 and *Cape Ann* in 1895. The line included Salem for a time in 1872. *Cape Ann* was built by Næfie & Levy Ship & Engine Building Company, Philadelphia, in 1895, being 718 tons, 171 feet length, 28 feet beam and 1,500 horse power, and was purchased by the French government in 1916. The company was reorganized in 1917 when Henry M. Whitney retired after 48 years as president.

MERRIMACK RIVER TRANSPORTATION

A small steamboat, built at Lowell in 1816, had two wheels on each side and an iron chain drive, making five miles' speed. *Merrimack* was built at Haverhill and made its first trip to Newburyport, April 8, 1828. *Mechanic* made excursions from Haverhill in 1831 and at the same time *Fanny. Herald* first ran from Lowell to Nashua, May 31, 1834, and later went to the Hudson River.

Essex carried passengers from Plum Island to Haverhill in 1834, propelled by horse power and in 1835 *Citizen* served Portsmouth and Boston. *Decatur,* Captain Joseph Bartlett, made its first trip from Newburyport to Boston, April 21, 1845, followed by *Ohio,* Captain Jeremiah Lunt, leaving in May, 1847, to run between New Orleans and Galveston. The Newburyport, Boston & Haverhill Steamboat

Company was organized, April 9, 1846, to operate on the Merrimack River beginning with *Lawrence,* which was sold in 1848 to run between Norwich and New London, coming back in 1855 to run from Boston to Salem.

The Merrimack Steam Navigation Company, organized March 3, 1847, brought out a new *Lawrence,* June 16, 1848, running one season, when it went to California, being taken down at Newburyport, shipped and set up in California, the first steamboat to carry passengers on the Yuba River. The draught was but 15 inches.

California made two weekly trips between Haverhill and Newburyport in 1849 having *Sarah,* Captain Isaac Shepard, as opposition. Both steamers went to California in the fall of '49.

Narragansett, Captain John B. Tuttle, came on in 1850 and a new *Merrimack,* Captain William Pritchard, August 14th, beginning regular trips. *Merrimack* was sold at auction in Boston in 1854. *C. B. Stevens* ran to Haverhill, 1852, and was auctioned in Boston the next year. *Lawrence* ran during the summer while *Silver Star,* Captain Thomas McKinney, ran excursions in 1855. *Peerless,* Captain Joseph M. Coffin, 1862, and *Glide,* Captain Coffin, 1872, ran excursions and *May Queen* came on in 1872 to serve many years.

City of Frederickton, a stern wheeler, came to Haverhill June 24, 1878, but having been built in New Brunswick was denied registry. The hull became a restaurant in 1880 and the engine and boiler went into *City of Haverhill,* built at Newburyport for the Merrimack Valley Steamboat Company, organized December, 1879. *City of Haverhill* was lost on its way to Florida, 1895. The same company built *Merrimack,* a stern wheeler, in 1892, running until 1912 and broken up in 1915. *General Bartlett,* Captain John O. Davis, ran on the river in 1879. *Maud,* Captain Henry Vatter, ran daily between Lawrence and Newburyport in 1876. *Charles L. Mather,* a side-wheel tug, made two trips in 1876, and *Kitty Boynton, Startled Fawn,* 1879, and *Orient,* 1880, ran in the service of the Pentucket Navigation Company. *Merrimack,* stern wheeler, Captain Haverty, ran in 1882 but was sold South, and the company's remaining property auctioned at Lawrence in 1883.

The People's Line was organized in 1880 to run on the Merrimack and to Newburyport and Boston. *May Queen* and *Florence* ran to Boston, *Florence* being replaced by *E. P. Morris. E. P. Shaw* was built in 1883 for summer travel and in 1889 *Pauline,* but in 1891 the line succumbed to trolley competition. The Philadelphia and Reading Coal & Iron Company brought coal to Newburyport

in the propellers *Leopard, Panther, Hercules, Achilles, Rattlesnake* and *Centipede,* among others, in 1876, but ocean-going tugs and barges replaced the propeller fleet.

Lewiston, when 40 years old, began to run, May 2, 1898, Newburyport to Boston for the Bay State Steamship Company, quitting in July, and broken up. *City of Haverhill* ran from Haverhill to Newburyport and Boston in 1902, and in 1909 the propeller *J. O. Ellison* made freight trips to New York returning with coal. *J. O. Ellison* foundered in the Gulf of Mexico in 1914.

Citizen, Captain Clendennin, inaugurated service between Boston and Portsmouth in 1835. *Portsmouth,* Captain S. M. Tripe, thought to be the first steamboat built in Salem, ran in 1838. The railroad was extended to Portsmouth in 1840 and *Huntress* and *M. Y. Beach* connected as "the railroad boats."

The new railroad fought for Maine business against the all-water outside boats. *M. Y. Beach,* Captain A. Brown, connected at Portsmouth with the arrival of trains for Portland, "avoiding the dangers of Cape Ann," and *Huntress* ran to Bath and Gardiner. When the railroad was extended to Portland in 1842 the boats took new routes further east.

Alice Riggs, Captain William Coleman, a propeller, ran from Boston to Portsmouth and Dover in 1865 as a protest against existing high rail freights, but the line soon quit. *Acushnet* and *City of Bangor* ran to Portsmouth in 1881-82 and in 1890 the old *John Brooks* came on, continuing to 1894. Isle of Shoals was connected with Portsmouth in 1854 by *Grace Darling,* followed by *Silver Star,* and in 1864 regular service was begun with the propeller *Pioneer,* Captain Amazeen, followed by *Appledore, Major, Oceanic, Viking, Merryconeag* and *May Archer,* small propellers of about 100 feet length. *Plymouth Rock, Empire State* and *New Brunswick,* larger steamboats, ran from Boston to Star Island, Isle of Shoals.

STEAMBOATS OF THE SOUTH SHORE

Eagle opened the steamboat route along the south shore of the bay in 1818, commanded by Captain Lemuel Clark of Plymouth, and ten years later *Lafayette* was placed in the line, making trips to Plymouth, commanded by Captain Thaxter. *Lafayette* was built by Noah Brown, New York, for Henry Eckford, and measured 92 tons, 82.6 feet length, 20.6 feet beam and 6 feet depth of hold. *Rush Light,* Captain Currie, ran to Plymouth in 1830.

The Boston & Hingham Steamboat Company was organized in

1831, continuing in all the years since and now known as the Nantasket Beach Steamboat Company. *General Lincoln* was built at Philadelphia for the line and made its first trip June 16, 1832, being 95 feet length, 22 feet beam with two engines and two boilers. *General Lincoln* occasionally left its run for towing and was sold for that purpose in 1845. *General Lincoln* and *R. B. Forbes* aided the Cunarder *Cambria* into deep water after striking on Truro Beach in 1846.

Mayflower, Captain George H. Beal, came on in July, 1845, being 133 feet length, 24 feet beam with engine having cylinder 30 inches diameter, being replaced in 1857 by *Nantasket,* built by Robert Collier, New York, who took *Mayflower* in part payment. *Mayflower* was rebuilt in 1859 and used by the Quartermaster's Department in the Civil War. *Nantasket* went into war service in 1862, coming back after the war as *Emeline,* running opposition to Strawberry Hill, near Nantasket, and to Gloucester, and was long familiar on the Hudson River, running between Haverstraw and Newburgh.

When tonnage was scarce in 1862 *Gilpin,* which had towed on the Delaware and Connecticut Rivers, and *Halifax,* a stern wheeler, covered the route until *Rose Standish* was completed in 1863. *Rose Standish* measured 392 tons, 154 feet length, 27 feet beam and carried 1,000 passengers. *Rose Standish* was sunk in Boston harbor in collision with a tug, August 28, 1884, was raised and went to Calias, Me., in 1887 and burned in 1900.

John Romer, 409 tons, built at Keyport, N. J., in 1863, went on the Hingham route in 1866, continuing until 1887 when sold South. *Governor Andrew* followed in 1874, the second *Nantasket* in 1878, *Twilight,* from the Hudson River and *William Harrison* in 1881; *Myles Standish,* 1895; *Hingham,* 1896; third *Nantasket,* 1902; *South Shore,* a steel boat, 1906; *Betty Alden,* 1908; second *Rose Standish,* 1912; and *Mary Chilton,* 1915. In building *Mary Chilton* the owners went back to wooden hull and beam engine as being best adapted for the summer excursion business.

The Boston & Hingham Steamboat Company was divided in 1881, the offshoot calling itself the Hingham, Hull and Downer's Landing Steamboat Company, and in 1890 the old company retired and the two lines reorganized as the Nantasket Beach Steamboat Company. *Governor Andrew* began to run to Plymouth in 1902. Plymouth had been served by *Lafayette* and *Rush Light,* 1830, and after several years' interval the Memnemon Sandford Line ran *Express* and *Yacht* through the '40's. *Express* came from the Hudson River and was wrecked in the Potomac in 1863. *Flushing,* Captain

Van Pelt, followed and after the Civil War came *Stamford,* afterwards *John Endicott,* Captain W. E. Davidson, running many years and going ashore on Cohasset Rocks in 1900. Following came *John Brooks, City Point, Lily, Shoe City* and *Putnam,* running for short periods until the Nantasket Line took over the Plymouth route.

The Winthrop Steamboat Company brought out the propeller *Plymouth,* running 1897-99, and then sold to the Government for a lighthouse tender and renamed *Iris. Gurnet,* a small propeller, connected Scituate and Boston, 1915-16, being taken by the Government in 1917.

Steamboats of the Provincetown Steamboat Company connected Boston and Provincetown in 1848 when *Naushon* ran between Boston and Wellfleet, calling at Providencetown, for four years. *Acorn,* Captain R. Stevens, made two weekly trips until the Civil War's end and *George Shattuck,* a propeller, followed. *Longfellow* was built for the run in 1883 and ran many years. Opposition developed in the early '80's when *Acushnet* and *City of Bangor,* small propellers, ran to Provincetown and in 1889 the Boston, Plymouth and Provincetown Steamboat Company, afterwards Cape Cod Steamship Company, was organized, and placed *Cape Cod* in service in 1900, previously chartering *Nantucket. Cape Cod,* in recent years, ran out of New London. The company was reorganized in 1910 and placed the Baltimore iron propeller *Charlotte* on the run, renamed *Dorothy Bradford,* being 1,746 tons, 229 feet length and built by Næfie & Levy Ship & Engine Building Company, Philadelphia, in 1889. *Dorothy Bradford* was taken by the Government for war service in 1918.

COASTWISE RUNS FROM BOSTON

Steamship service joining Boston with New York and Philadelphia was slow to get under way for the sail packets long held the trade. *Ontario* stands first in the record, 1852, "steam propellers running regularly between Boston and New York direct," and *Benjamin Franklin* connected Boston and Philadelphia.

The Metropolitan Steamship Company was organized in 1865 by James S. Whitney, Henry M. Whitney, Peter Butler, James Taft and other Boston capitalists. They were practical steamboat men, interested in other ventures, and placed in immediate service *Ashland, City of Bath, Salvor, Relief, Jersey Blue, Miami, Mary Sanford, Monticello* and *Fairbanks,* all propellers except *Miami,* a paddler, double ended and previously a light draught gunboat designed

for southern waters. *Jersey Blue* was built in Newark in 1850 to run on the Delaware and had run from Nantucket to New York but was not supported. *Ashland* had been owned by Thomas Clyde who became interested in the Metropolitan Line.

The Neptune Steamship Company, operating from Providence, placed *Nereus, Glaucus* and *Neptune,* new wooden propellers, and *Metis, Thetis* and *Doris,* older boats, on the outside run to Boston in 1865 but in 18 months the owners were involved and the Metropolitan Line purchased *Nereus, Glaucus* and *Neptune* for $300,000, and with the coming of these larger carriers the older boats dropped out.

The Merchants' Line opposed in 1867 with *Equator,* Captain Jackson, and *Key West.* The Metropolitan Line built *General Whitney* in 1872, an iron steamer of 1,848 tons, 227 feet length, 40 feet beam and equipped with cribs to keep cotton cargo from shifting. John Roach built *General Whitney* at Chester, Pa., which gave many years of fine service, being chartered in the Spanish War by the Morgan Line, and then ran to New Orleans, and while in this service foundered off St. Augustine, Fla., April 23, 1899, when Captain Hawthorne and 16 men were lost from a life-boat going ashore.

The Metropolitan Line added *H. F. Dimock,* 1884; *Herman Winter,* 1887, and *H. M. Whitney,* 1890; built at Cramp's, Philadelphia, freighters of approximately 2,600 tons, 275 feet length and 40 feet beam. *James S. Whitney* was built at Cramp's in 1900 to replace *General Whitney.*

The Joy Line added Boston service to its Providence, New Haven and Bridgeport lines in 1900, employing for the most part *Old Dominion,* an old-time iron side-wheeler of 2,000 tons, long running out of Richmond, Va. Control of the Metropolitan Steamship Company was purchased from the Whitneys by C. W. Morse in 1906 for $3,000,000, and it became a part of Morse's Consolidated Steamship Lines. It was while Morse controlled the Metropolitan Line that interests connected with the New York, New Haven & Hartford Railroad Company built the fast freighters *Massachusetts, Bunker Hill* and *Old Colony* which ran in opposition as the Merchants' Line in 1908.

Morse retaliated with a new passenger service and one of his many corporations began, and a string of corporations carried along the building of *Yale* and *Harvard,* magnificent passenger steamers of 3,700 tons, 376 feet length, 61 feet beam and turbine engines of 10,000 horse power. W. & A. Fletcher Company held the contract

and built the engines, the hulls built on the Delaware, while John Englis & Son built the deck houses.

Yale and *Harvard* were magnificent steamers and fortunate in self-advertising names. The shipping world and travelers had pride in them and they ran full up through a long summer season, making 23 knots and doubling Cape Cod in good weather or fog, covering 330 miles in 15 hours' running time.

Morse became involved in 1909 and lost control of his Boston line which came to interests friendly to the competing railroad and Merchants' Line. *Yale* and *Harvard* were chartered in the fall of 1910 to the Pacific Alaska Navigation Company for $360,000, and began to run between San Francisco and San Pedro (port of Los Angeles), a year-round run, and later they were purchased, largely from the profits of their own operation on the west coast. Both steamers served in the World War as English channel transports.

With *Yale* and *Harvard* off the Atlantic coast, the Maine Steamship Company, a New Haven subsidiary, which had succeeded to ownership of the freighters *Massachusetts* and *Bunker Hill,* refitted them for passenger service and oil fuel, the rebuilding being accomplished at Cramp's, and operated them in 1911. The Eastern Steamship Corporation succeeded to ownership in 1912, and when the Cape Cod Canal was opened *Massachusetts* and *Bunker Hill* took advantage of the 77 miles cut off. They ran regularly in the summer season of 1917 when the Government took them. The Metropolitan Line placed *Camden* and *Belfast* on the run in 1918 and in recent years *Calvin Austin* and *Northland.* The Eastern Steamship Company added two new liners, *New York* and *Boston,* in 1924.

The World War brought opportunity to sell *James S. Whitney* and *Henry M. Whitney* for $400,000 each, and *Herman Winter* and *H. F. Dimock* went in the Gulf banana trade. Two new freighters for the New York and Boston run were built by the Eastern Steamship Lines, Inc., for this service in 1924.

Opposition Boston-New York freight service was proposed in 1925 by C. L. Dimon and others with *Restorer, Reliant* and *City of Seattle,* but *Reliant* was lost on the voyage from England.

CHAPTER XIV

Down East Steamboats

TOM THUMB stands in the record as the first steam vessel to visit Maine in 1818, an open side-wheel steamboat, 30 feet length, and owned by a Mr. Dodd. *Tom Thumb* was towed from Boston to the Kennebec where it cast off and steamed up the river against the tide. It was running between Bath and Augusta in 1828. *Kennebec,* advertised in 1822 to leave Portland for North Yarmouth, was the first steamboat of Captain Seward Porter, who did much to introduce steam transportation in eastern waters.

Captain Porter brought *Patent* to Portland, July 7, 1823, a low-sitting steamboat without hurricane deck, engine and boilers set in the hold, with a balance wheel that rose halfway above the main deck. The paddle shaft had a clutch to disconnect the paddle to aid in turning. Cabins were below deck. *Patent* was 200 tons, about 100 feet length, cost $20,000, and was capable of 10 miles' speed. Engine and boiler were built by Daniel Dod, Elizabethtown, N. J. In the first trial the boiler blew its head, killing five persons including Mr. Dod.

Another of Captain Porter's boats, *Maine,* Captain Smith Crane, visited Belfast May 22, 1824, announcing its arrival by cannon salute. The accepted story is that it was constructed of two schooners, with cross deck beams; measured 105 tons and cost $13,000. *Maine* ran out of Bath for Eastport, occasionally making St. John and touching at Boothbay, Owl's Head, Camden, Belfast, Sedgwick, Cranberry Isles and Lubec, and later called at Castine.

In 1824 or '25 there was a regular line of Porter boats connecting the principal ports of Maine with Boston and New Brunswick. *Maine* ran between Bath and Belfast in 1826 and *Patent* connected Belfast and Eastport, connecting with Kennebec River and St. John boats. *Waterville,* a small steamer built at Bath in 1823, ran for a few trips on the Penobscot.

The Kennebec Steam Navigation Company was formed in 1823 and bought *Patent* to run between Boston and Bath and purchased *Maine.* The company increased its capital in 1826, selling shares

in Boston and with the new funds buying *Legislator,* 170 tons, 115 feet length, 22 feet beam, 7 feet depth of hold and schooner rigged. *Legislator* had been built in 1824 by Noah Brown, New York, and had cross head engine of 60 horse power. It was built for the New York and New Brunswick, N. J., run, but a boiler explosion gave it a bad name in New York waters.

Legislator's arrival in Boston was a holiday, the city authorities being invited to a trip down the harbor and a splendid dinner was prepared. President Owen of the Company proposed, "The *Legislator*—may she receive the patronage of the legislators." Reply by Honorable Mayor Quincy included a warning, "The legislators, local, state and national—may they so manage their steam as not to burst the boiler." This entertainment of Boston political bigwigs was planned to establish favor, and a few years later Captain Porter petitioned the legislature for a charter for a lottery in aid of the line, and for the gift of a section of South Boston flats for a wharf for his boats.

The Kennebec Steam Navigation Company closed out its business in 1828, selling its property at auction in October. *Legislator* went to run on the Hudson. Captain Porter bought *Patent* and operated it on the Boston and Portland route until 1830 and was running on the Penobscot in 1835, and is believed to have gone south and been wrecked.

New York, a steam brig of 281 tons, ran between Boston and Maine ports. It had been built at Norfolk, Va., in 1822, by W. A. Hunter, with engine by Daniel Dod. The paddle boxes proclaimed "New York and Norfolk Packet." *New York* was owned in Eastport and continued until August 20, 1826, when lost by fire at sea. It collided with *Patent* in the afternoon and burned in the evening. A newspaper account at the time said there were but two men on deck. No engineer or fireman was at his post and but one bucket could be found on deck.

Captain Porter brought on some well-known steamboats in 1829, including *Connecticut,* 350 tons, to run between Boston, Bath and Portland. *Connecticut* made some few trips to Bangor in 1834 and in 1837 and '38 took the place of *Bangor,* then commanded by Captain William Porter, afterwards American Consul to the Barbary States.

Amos H. Cross invaded the field in 1832 with *Victory,* from the Hudson and Connecticut Rivers, an old boat which had seen its best days. It was altered later to a towboat and served until 1845 when it sank. Cross brought *Chancellor Livingston* to the Boston, Port-

land run in 1833, then 16 years old when it came to Maine, a fine ship and fitted with its third engine, 56 inches cylinder diameter by 6 feet stroke. Captain Lemuel Weeks was master and Commodore Cornelius Vanderbilt was supposed to have financial interest. *Chancellor Livingston* came under the Porter banner in 1834, running with *Connecticut.* The Porters formed the Cumberland Steam Navigation Company to build a new boat in 1835 named *Portland,* in which *Chancellor Livingston's* boiler and engine were installed. The old hull was beached and made into a dwelling house.

The Porters, though able to shake off Amos Cross's competition, met opposition in *McDonough,* built in 1826 for the Connecticut River which came to Maine in command of Captain Sidney E. Howard with Captain John B. Coyle as engineer. *McDonough* ran opposition in 1833, but the Porters bought *McDonough,* as *Portland* was not ready. *McDonough* ran to Boston in 1835 and later on the Kennebec with an occasional trip to Bangor, being sold for Cuba but was wrecked soon after leaving New York.

Portland, 400 tons, 163 feet length, 27 feet beam and 10.6 feet depth of hold, began trips August, 1835. Captain Samuel Stanwood of Portland was navigator and Captain J. B. Coyle engineer. *Portland* had two stacks and single mast, solidly constructed, and was slow, though able. *Portland* is another of the early steamboats for which first success is claimed in burning anthracite coal. Captain Coyle is said to be inventor of the blower. *Portland* served as a connecting boat in the Bangor line, but rarely made trips east of the Kennebec. *Portland* was sold in 1842 to James Cunningham, and ran between Boston and Portland in connection with *Bangor* and was running as late as 1850.

STEAMBOATS OF PENOBSCOT BAY

The Boston & Bangor Steamship Company was formed in 1833 and built *Bangor* which came out in 1834. Brown & Bell, New York, were builders. *Bangor* was the first new and fast boat to serve Maine, being 400 tons, fore and aft rigged and carried five boats. The engine was cross-head type, 36 inches diameter cylinder by 9 feet stroke and the boiler burned 25 cords of wood per trip. The construction was superintended by Captain George Barker of Bangor who was commander, followed by Captain Samuel H. Howes. *Bangor* ran until 1841 on this route, and then for a season ran east under Captain Dunn.

Captain Dunn took *Bangor* to the Mediterranean where it was

Chancellor Livingston, last of the Fulton boats, which finished its days in Maine waters

renamed *Sudower,* and employed in carrying pilgrims to Alexandria on their way to Mecca. Not a Mussulman would go aboard the ship, which was painted white, the native mourning color, but objection ceased when it was repainted black. It was purchased by the Sultan of Turkey for the Turkish Navy.

Captain Seward Porter ran *Sandusky* between Boston and Bangor in 1835, and added *Independence* in August. *Independence,* Captain Thomas Howes, was built in 1827 by Brown & Bell, New York, for Hudson River and measured 368 tons, 148 feet length, 26 feet beam with a Stevens engine, having cylinder 44 inches diameter by 10 feet stroke. It finished as a towboat, being later broken up.

All steamboats operating between Boston and Maine ports in 1836 ran as the Eastern Steamship Mail Line. *Bangor* continued on its route; *Portland* ran from Bangor to Portland a part of the season and then from Portland to Boston. *Independence* also ran opposition on the Boston-Bangor route through the busy season.

The Eastern Railroad was opened to Portland in 1842, the railroad bringing on *Huntress* and *M. Y. Beach* to run from Portland east, precipitating a rate war with the older boats. In July Captain Memnemon Sanford brought on the fast *Express,* 172 feet length and 23 feet beam to run from Portland to the Penobscot succeeding *Bangor* and *Huntress,* Captain W. H. Byram ran opposition.

In 1843 Captain Memnemon Sanford and James Cunningham of New York placed *Charter Oak* on the outside run, Bangor to Boston, built in Hartford, and formerly on the Hartford, New Haven and Norwich lines. Captain Sanford had upset the plans of Commodore Vanderbilt and was forced off Long Island Sound and later Commodore Vanderbilt forced the fight to Maine waters and sent *Telegraph* to run out of Boston for Bangor but *Telegraph* was old, though $12,000 was spent in reconditioning. It ran against Sanford's *Admiral* which came to the route in 1842. *Telegraph* ran out the season of 1843 and in 1844 was running on the Kennebec.

The Bangor Steam Navigation Company, a newcomer, placed order with Betts, Harlan & Hollingsworth, Wilmington, Del., in 1842, for an iron steamboat, the first sea-going iron propeller constructed in the United States, to run between Boston and Bangor. The Harlan firm, organized in 1836, had no building ways of their own, and leased from the Wilmington Whaling Company land on the banks of the Christiana River, a short distance from their shops. A huge "ship house" of frame construction was built over

the hull that the work might proceed in bad weather. When the new boat was receiving finishing touches, a cyclone struck the ship house and the force of the storm carried it down, with loss of one life.

This was a new *Bangor,* and at the launching the timbers broke at the moment of gliding into the water, and the vessel fell over on its side upon the soft mud-bank of the stream. No serious injury resulted, and the steamer righted as she slid into deep water, but it was a narrow escape from a discredited launching.

Bangor's hull was formed of bar iron ribs, secured by numerous wrought iron clips, and the plating was lapped or clinker fashion, instead of the modern inside and outside method of applying plates. *Bangor* carried three masts and was schooner rigged and was considered handsome. The outline and proportions of the figurehead, stem and forefoot were not departed from through many years and were as fine as many of the smart yachts that came later. *Bangor* measured 231 tons, 131 feet length, 23 feet beam, 9 feet depth of hold, and was completed in 8 months.

The crew's quarters were forward, while the passenger accommodation was aft on the main deck, and the deck houses were elegantly fitted. Captain Alexander Parker was master; Henry Docray, chief engineer; W. N. Ray, second engineer; John Fuller, pilot, while Edward C. Hyde represented the company as agent and part owner. On the second trip of *Bangor* from Boston it caught fire and was beached and abandoned to the underwriters and towed to Bath and rebuilt, or rebuilding may have been accomplished at a more southern port.

The United States Government purchased *Bangor* in December, 1846, for $28,975 and renamed it *Scourge.* The Mexican War was then breaking and *Scourge* was fitted as a war vessel of three guns. Conversion for naval purposes cost $15,885. After two years it was sold by Vespasian Ellis of New York as agent for the Government, to John F. Jeter, of Lafayette, La., for $2,300, and is registered at New Orleans Custom House, October 9, 1848.

Penobscot was transferred from the Kennebec to run between Boston and Bangor in 1845, forming Sanford's Independent Line. Captain Thomas B. Jewett was master and Captain William Flowers, pilot. *Penobscot* made its first trip June 17, 1845, by the outside route, Cape Ann to Monhegan direct, and Captain Flowers invented the method of "time and courses" which was immediately adopted for all coast lines.

Governor, a new boat, came out in 1846 to run between Portland

and Bangor, built by Samuel Sneden, New York, 203 feet length, 29 feet beam with engine having cylinder 48 inches diameter and 11 feet stroke. In its career *Governor* ran on many Maine routes, and was chartered on several occasions to the Fall River Line. It foundered off the Carolina coast, November 2, 1861, while conveying troops to the Port Royal expedition in the Civil War, but soldiers and crew were rescued by the U. S. frigate *Sabine.*

Captain Sanford brought out *T. F. Secor* the same year, a side wheeler 130 feet length, to run from Belfast, where it connected with the Boston boat, to Ellsworth and Mt. Desert. *T. F. Secor* was taken in 1862 for Civil War transport, and in May, 1863, burned at Milton Head, S. C.

W. J. Pease was built in New York to run with *Penobscot.* The Eastern and Boston & Maine Railroads injected strong competition with the fine new steamboat *State of Maine,* built by Bishop & Simonson, New York. *State of Maine* was 840 tons, 248 feet length, 32 feet beam with an engine having cylinder 54 inches diameter and 11 feet stroke, and two iron boilers, the first Maine steamer to have boilers located on the guards.

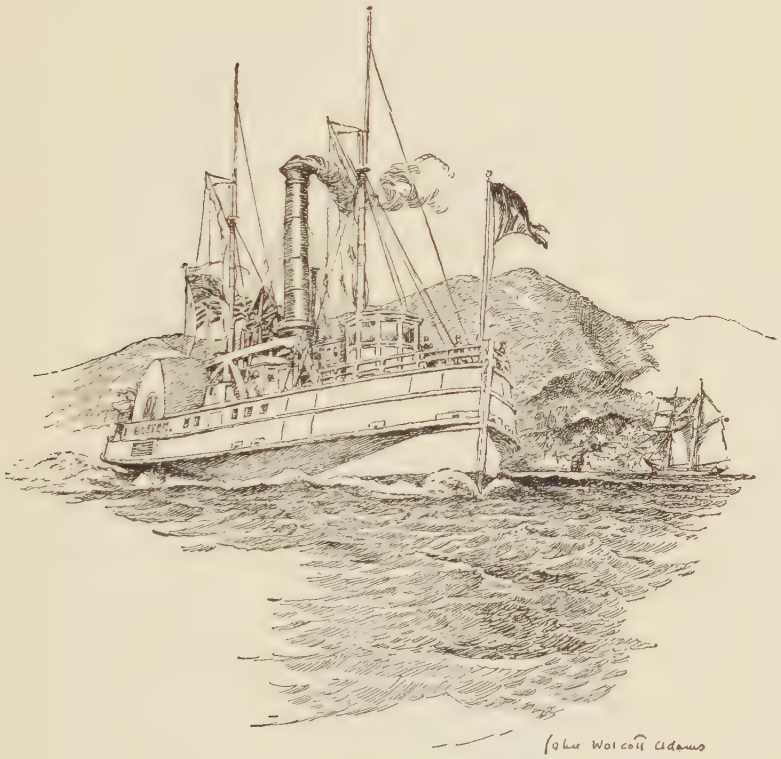
Kennebec was transferred to the Bangor Line when the Portland and Kennebec Railroad was opened to Bath in 1849, replacing *Penobscot,* which was now renamed *City of Norfolk,* and placed on the New York, Cape May and Philadelphia route which the Sanfords owned. *City of Norfolk* was lost off the Delaware Capes, September 12, 1857. *Kennebec* later went to the Cape May run and burned, April 9, 1870, at Gloucester Point, Va.

Railroads connected with Bangor in 1857, but in the long period preceding steamboats had a monopoly. Several splendid steamers were added, *Boston* coming out in 1850, a side-wheeler, 630 tons, 225 feet length, 28 feet beam, 10.6 feet depth of hold, with engine by T. F. Secor & Company, New York, having cylinder 40 inches diameter by 11 feet stroke. Captain Thomas B. Sanford commanded *Boston,* many years on the Bangor run, later going to the Cape May route. *Boston* went ashore May 25, 1864, near Hilton, S. C., and was burned to keep it from falling into the hands of the Confederates.

In the winter of 1850 *Ocean* made a few trips between Belfast and Boston, and *Boston* continued on the outside route while *Governor* ran between Portland and Bangor.

Captain Memnemon Sanford, who had pioneered in many fields of steamboat transportation, died in New York, June 24, 1852, aged 63 years. He was of the pioneer group which had established

steamboating on a firm foundation. For 30 years he commanded and operated steamboats, building a big fleet. He had driven hard and traveled far, separating from partnerships and openly waging war, always exhibiting strong character, special abilities and enterprise. At the time of his death Captain Sanford controlled the



Boston, built for the rough waters of the Maine coast

New York and Philadelphia line and the Kennebec and Penobscot routes from Boston.

Management of the Sanford Independent Line was succeeded to by his sons and nephews, and Captain Charles B. Sanford became the moving spirit.

A splendid new steamer, *Daniel Webster,* arrived for its first trip, April 21, 1853, built for the Maine Steam Navigation Com-

pany, associated with the Eastern and Boston & Maine Railroads, to run between Portland, Penobscot River towns and Bangor. *Daniel Webster* was built by Samuel Sneden, New York, and measured 910 tons, 240 feet length, 34 feet beam and 11 feet depth of hold. West Point Foundry built the engine, having cylinder 52 inches diameter by 11 feet stroke. It had two iron boilers, originally located on the guards, but in 1871 one new boiler was relocated in the hull.

For strength, speed, fine appearance and accommodations *Daniel Webster* had not been approached by any steamboat in Maine waters. A portrait of Daniel Webster, presented by Boston friends, hung in the saloon. *Daniel Webster* connected with the steamboat train alternately run by the Eastern and Boston & Maine roads. Captain Samuel Blanchard was *Daniel Webster's* first commander, Captain Otis Ingraham, mate; and Captain William R. Roix, first pilot.

In the Civil War *Daniel Webster* became *Expounder* and ran for a time between Baltimore and West Point, Va. At the war's close it was purchased by Spear Lang & Delano and operated between Boston and the Kennebec, afterwards being sold for service on the St. Lawrence and the name changed to *Saguenay*.

Rockland, 400 tons, built at Hoboken in 1854, connected at Rockland with *Daniel Webster* for Machias and landings. Captain E. H. Blaisdell was master. During the Civil War *Rockland,* then in charge of Captain Otis Ingraham, had exciting adventures as a dispatch boat and was sunk in Charleston harbor. Two small propellers, *Eastern State,* built in 1852, and *General Knox,* 1855, ran from Boston to Penobscot River. *Eastern State* was 420 tons, 170 feet length. The engine was direct acting, with two cylinders each 30 inches diameter by 26 inches stroke turning a four-bladed propeller 8 feet 10 inches diameter. *Eastern State* was rigged as a three-masted schooner with a square sail on the foremast yard and latterly ran between Boston and Nova Scotia.

General Knox, 140 feet length, 24 feet beam, with engine having cylinder 34 inches diameter by 3 feet stroke, ran in 1855, and is believed to have been sold to French owners for use during the Crimean War. *Phœnix,* a stern-wheeler, 82 feet length, ran several years on the Penobscot, beginning 1850.

The big event of 1856 was the arrival of the 1,000 ton *Memnemon Sanford,* Captain E. H. Sanford, originally planned for the New York-Philadelphia route: 237 feet length, 34 feet beam and 12 feet depth of hold; it was built in 1854 by John Englis & Son, Brooklyn. *Memnemon Sanford* went ashore on Thatcher's Island, July 5, 1856, and the passengers complained of the officers' miscon-

Daniel Webster became *Expounder* when impressed for the Civil War

duct. It ran ashore again, July 31, 1862, on Dry Salvages ledge, Cape Ann. Being chartered to carry troops in November, 1862, it ran ashore at Carysfort reef, off the Florida capes, through treachery of the pilot, December 10th, and became a total loss, but the 800 soldiers aboard and the crew were saved.

The Sanford Line offered to convey troops, munitions of war and authorized Government agents between Boston and Bangor without charge, and Captain Sanford tendered *Memnemon Sanford* to Governor Andrew for transport service at the beginning of the Civil War in 1861, and he offered free towage of vessels to and from the harbor forts. *Harvest Moon,* Captain William R. Croix, ran from March to July, 1863, between Bangor and Portland.

Katahdin, 1,234 tons, came on May 19, 1863, built by John Englis & Son, Brooklyn, and Captain Charles B. Sanford was the first skipper. J. P. Allaire built the engine, 400 horse power, with cylinder 56 inches diameter by 11 feet stroke. *Katahdin* had 70 staterooms, 150 men's berths and 60 berths in the ladies' cabin, and cost $250,000. During the winter of 1864 it ran on the Fall River Line, but in a long career ran mostly between Boston and Bangor, often throughout the year, being broken up in 1895.

Cambridge was added in 1867, slightly larger than *Katahdin,* and also built by John Englis & Son. *Cambridge* was unfortunate, being caught in a hurricane after leaving Rockland, September 8, 1869, and burst a main steam-pipe and next the rudder-head jammed and it was helpless with 163 passengers and 83 crew drifting about in imminent danger of going ashore on Pemaquid Point. A sea anchor held the head to the sea until her ground anchors could be let go, and they held, and *Cambridge* rode out the storm. The next morning *New England* of the International Line, bound for St. John, took *Cambridge* in tow to Rockland. Due to a blunder of the pilot it stranded on Old Man Ledge, George's Island, February 10, 1886, broke in two and became a total loss.

City of Richmond began to run on the inside route between Portland and Bangor in 1867 in connection with the railroad. *City of Richmond* was built at Athens, N. Y., in 1864 and measured 940 tons, 227 feet length, 30.6 feet beam and 10 feet depth of hold, and was commanded by Captain William E. Dennison. Captain Roix and Captain Spear were pilots. *City of Richmond* ran on the Maine coast, plying to Bangor until 1880.

Milton Martin ran opposition between Portland and Bangor in 1867 but returned to the Hudson River. The Portland, Bar Harbor & Machias Steamboat Company, organized at this time, bought

Lewiston, the first steamer to regularly make Bar Harbor. Short-lived freight opposition between Boston and Bangor was injected by the Penobscot Valley Steamship Company in the late '60's, operating propellers *William Tibbetts* and *Alliance.*

Control of the Boston and Bangor line passed to Richardson Hill & Company, Boston bankers, in 1875. The business was incorporated as the Sanford Steamship Company. It owned valuable dock property and *Katahdin* and *Cambridge.* In 1882 the title became Boston & Bangor Steamship Company with William H. Hill, president; William H. Hill, Jr., treasurer; James Littlefield, superintendent; James Hathorn, chief engineer; and Calvin Austin, freight agent.

Mount Desert, 457 tons, 163 feet length, was built at Bath, 1879, to connect Rockland and Bar Harbor, and in 1883 *Rockland* (second), a small propeller, was built at Boston to run from Rockland to Blue Hill summers, and winters to Bar Harbor.

A new *Penobscot* was built by Smith & Townsend, East Boston, in 1882, being 1,414 tons, 255 feet length, 38 feet beam with engine having cylinder 58 inches diameter by 12 feet stroke. *Penobscot* was overwide and unfit for winter work, and hog framing was added to stiffen her. The new boat made possible daily service. *Lewiston* replaced *Cambridge* when lost, and *City of Bangor* came out in 1894 followed by *City of Rockland,* 1901, wooden side-wheelers, built by James McKie, East Boston, approximately the same dimensions, 1,650 tons, 277 feet length, 38.5 feet beam and 14.4 feet depth of hold. *City of Rockland* ran on Gangway Ledge near Rockland in a fog, summer of 1904. In recent years *City of Rockland* ran to Bath for the Kennebec Steamship Company.

The old side-wheelers with wooden hulls were succeeded in 1907 by *Camden* and in 1909 by *Belfast,* built by Bath Iron Works, sister boats, 2,153 tons, 320 feet length, 40 feet beam, 16 feet depth of hold with turbine engines of 4,000 horse power, driving triple screws. In 1907 *Camden* ran to St. John for a time and for short periods *Camden* and *Belfast* have run to New York. *J. T. Morse,* a wooden side-wheeler, 199 feet length, replaced *Mount Desert* in 1904 on the Rockland-Bar Harbor route.

STEAMBOATS OF THE KENNEBEC ROUTE

Itinerant steamboats visited Bath and Kennebec ports and then in 1835 Captain Memnemon Sanford organized a company which placed *McDonough* in service, and later *New England.* On the

passage, Boston to Bath, May 31, 1838, *New England* was run down by the schooner *Curlew,* which rescued *New England's* passengers. *Huntress,* Captain W. H. Byram, succeeded *New England,* being 172 feet length, 23 feet beam with engine having cylinder 36 inches diameter by 12 feet stroke. *M. Y. Beach* ran from Bath to Portland, and soon after *Huntress* and *M. Y. Beach* were controlled by the Eastern and Portland and Saco and Portland railroads and were known as the "Railroad Line boats."

The Eastern Railroad owned dock property at Hallowell, and purchased through Captain Kimberly for $52,500 the crack steamer *John W. Richmond,* built in Providence in 1837, to run between Boston and Kennebec River. While lying at its wharf, Hallowell, September 30, 1843, *John W. Richmond* burned, and was replaced by the first *Penobscot,* 1844, and later by *Admiral.*

The Sanfords placed *Ocean* on the Boston and Bath route in 1849. *Ocean* was 220 feet length, 28 feet beam, with an engine having cylinder 48 inches diameter by 11 feet stroke. *Ocean* was run down in Boston harbor, November 24, 1854, by the Cunarder *Canada,* bound in, and burned and sank with loss of five lives.

Eastern State, Captain S. T. Donnell, built for a Bangor opposition line, ran to the Kennebec a short time in 1851, and afterwards to Nova Scotia. *Governor* replaced *Ocean* until *Eastern Queen* was completed by John Englis in 1857. *Eastern Queen* was built for the run, 700 tons, 220 feet length, 29 feet beam with engine having cylinder 48 inches diameter and 11 feet stroke. Captain Jason Collins was commander.

Governor, under new ownership, ran between Boston and Gardiner in 1857-58, against *Eastern Queen,* and a rate war resulted when prices got down to 12½ cents. *Eastern Queen* was badly damaged by fire in 1860 while undergoing repairs at Bath and *State of Maine* was chartered. For a time during the Civil War there was no steamboat connecting Bath and Boston. *Harvest Moon,* Captain William R. Croix, plied between the Kennebec and Portland; built in Portland, 1863, and measured 541 tons, 193 feet length, 29 feet beam, 10 feet depth of hold. *Harvest Moon* became Rear Admiral Dahlgren's flagship in the South Atlantic blockading squadron, and was blown up by a Confederate mine in Winyah Bay, near Georgetown, S. C., March 1, 1865. *Scotia* replaced *Harvest Moon* on the Maine run.

The Kennebec Steamboat Company was organized, following the Civil War, by Bath and Gardiner capital and it commissioned John Englis & Son, Brooklyn, to build *Star of the East* in 1866, 1,413

tons, being 244 feet length, 35 feet beam and 12.6 feet depth of hold with engine 700 horse power. Captain Jason Collins was master. *Star of the East* stopped at Gardiner, but *Eastern Queen,* when it returned to the route, ran through to Hallowell.

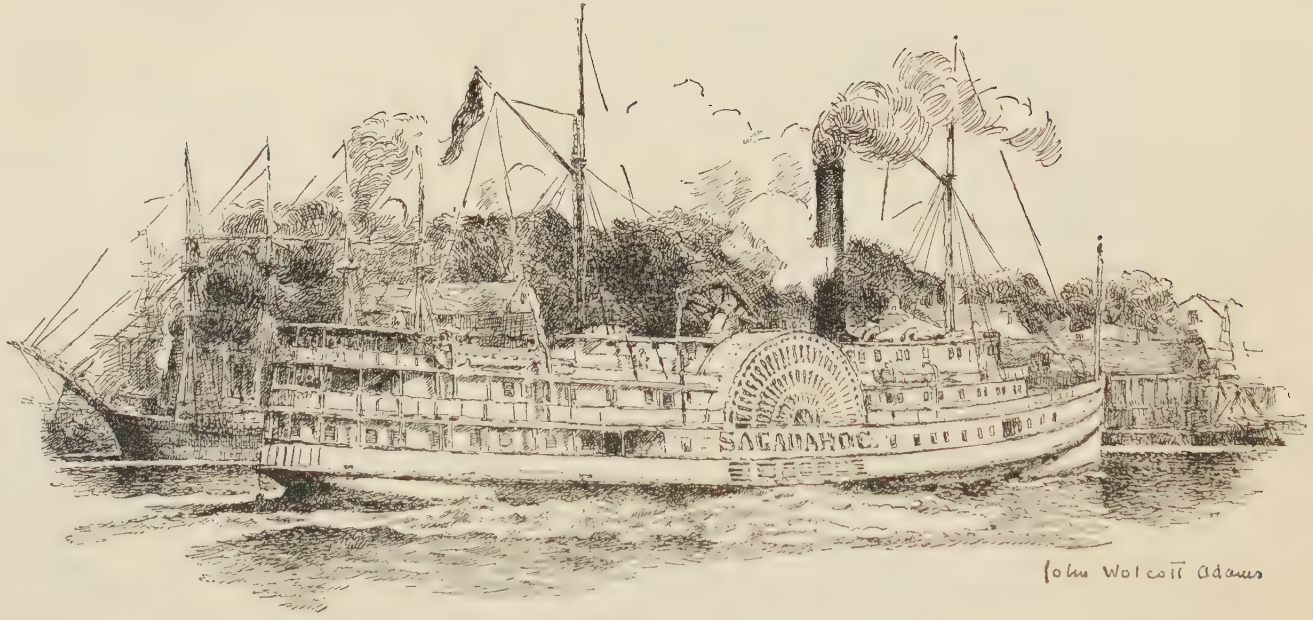
Spear, Lang and Delano bought *Daniel Webster* and *Eastern City* (named *Cossack* in Civil War service) from the Government, and in 1867 ran them as opposition from Boston to Kennebec River. A rate war resulted but after two seasons the opposition petered out. Both boats went to Canada and *Eastern City* became *St. Lawrence.*

For many years the Kennebec Steamboat Company met no further opposition. *Kennebec* was built in 1889 by the New England Shipbuilding Company, Bath, 1,652 tons, 256 feet length, 37.6 feet beam, with engine having 60 inches diameter cylinder and 11 feet stroke. *Kennebec* was first built with the boiler on the main deck. *Star of the East* was rebuilt, 1889, and renamed *Sagadahoc. Lincoln,* a twin-screw propeller, was added in 1897, also built by the New England Shipbuilding Company, 997 tons, 203 feet length, with two triple expansion engines. *Lincoln* was sold to the Florida East Coast Railroad and renamed *Martinique,* and later went to the Joy Line, then being known as *Kentucky. Sagadahoc* became *Greenport* and ran to New York and later to Troy, while *Kennebec* ran out of Fall River and later on the Manhattan Line to Albany.

Ransom B. Fuller was built at Bath, 1902, by the New England Shipbuilding Company, 1,862 tons, 255 feet length and 1,600 horse power, but only ran a short time to Bath, being transferred to other routes, and was lengthened 45 feet in 1910. *City of Bangor* and *City of Rockland* were transferred to the Kennebec run and July 19, 1913, *City of Bangor* burned at Foster's Wharf, Boston. The line was abandoned by the Eastern Steamship Company in 1917, but in 1920 new interests organized the Kennebec Steamship Company which purchased *City of Rockland.*

STEAMBOAT LINES FROM PORTLAND

Extension of the Eastern Railroad to Portland in 1842 hurt the steamboat business, but a consolidation of interests made possible the organization of the Portland Steam Packet Company in 1844 with $100,000 capital. The company built the first propellers seen in Maine, *Commodore Preble* and *General Warren.* The first trip of *Commodore Preble* was made in May, 1844. It measured 286 tons, 150 feet length, 24 feet beam and had a pair of high pressure



Sagadahoc, ex *Star of the East* and later *Greenport*

engines each with two cylinders 17 inches diameter by 24 inches stroke. *General Warren* was slightly larger.

The company established a record for reliable running and good management and added *John Marshall,* a former Chesapeake Bay side-wheeler, in 1847, and it ran several years with the propellers. In 1848 the company carried 25,000 passengers and the freight receipts totaled $40,596. In the California gold rush days *General Warren, Commodore Preble, W. J. Pease* from the Bangor Line, *Senator* and *Governor Dana,* a stern-wheeler running on the upper Penobscot to Oldtown, all went to California, but *W. J. Pease* was condemned at Montevideo. The others reached the west coast and did good service.

St. Lawrence was added in 1850 and in 1852 *Atlantic.* They were 216 feet length, 28 feet beam, 10 feet depth of hold with engines having cylinders 40 inches diameter and 10 feet stroke. *Forest City* followed in 1854, *Lewiston* in 1856 and *Montreal* in 1857, steamboats approximately 235 feet length and with engines having cylinders 52 inches diameter and 11 feet stroke. *Forest City* ran more than 40 years under Captain John Liscomb and had large part in the capture of the Confederate raiders in Portland harbor, June 27, 1863, when the revenue cutter *Caleb Cushing* was boarded in a daring plot, which did not succeed for the activity of *Forest City* and *Chesapeake,* though *Caleb Cushing* sank in deep water. The raiders were taken prisoners.

The company bought *John Brooks* from the Bridgeport line. Originally *John Brooks* had two boilers on the guards, but when it came to Maine one boiler in the hold was substituted. It continued in service until 1890. *Lewiston* went to the Bar Harbor route and *Montreal* burned at its Portland wharf, August 9, 1873. They were replaced by *Tremont, Portland* (second), 1890; and *Bay State,* 1895.

WRECK OF THE *Portland*

Seventy-one vessels were lost between New London and Portland, Maine, the locality of the fury, in the great storm of November 7, 1898. It was the most terrible weather experienced in that vicinity since the Lighthouse gale of 1851 which had toppled Minot's Ledge Lighthouse, off Cohassett.

Portland, a side-wheel wooden steamboat with two funnels, left India Wharf, Boston, Saturday night at 7 o'clock, under command of Captain Blanchard, with a crew of 100 men and 200 passengers

returning to Maine homes to spend Thanksgiving. The weather was then not unfavorable for the run, 96 miles, ordinarily accomplished in seven or eight hours. The sky was overcast and a light breeze set in from the east.

While sea-faring men claimed afterwards that they never would have attempted a start that night, they testified in the Government investigation that "had they been in command of *Portland* they would have started without hesitation." *Portland* is known to have passed Deer Island Light at 7:20, and soon after the weather turned thick, but *Portland* ran out of the snowstorm and was sighted at 9:30, a couple of miles inside of the twin lights of Cape Ann, by Captain William Thomas of the fishing schooner *Maud S.* Captain Thomas testified that he did not feel that Captain Blanchard was taking chances in continuing on his course to Cape Elizabeth. Captain Thomas had debated whether he would run his schooner into Gloucester or continue for Boston.

It seems practically certain that *Portland* was somewhere between Cape Ann and Cape Elizabeth when the storm became severe. The disturbance at 9:30 was well to the south'ard and was dragging in winds from the northeast, which were increasing in force as the storm worked up the coast and the gradient deepened. The official wind velocities reported from Nantucket showed 58 to 90 miles an hour.

There was no trace of *Portland* from the time it was sighted by the Captain of *Maud S.* until 5:30 Sunday night, 24 hours after it left Boston, when great masses of wreckage came ashore at the tip end of Cape Cod, a few miles to the eastward of Race Point Life Saving Station. The greater portion was thrown upon the beach within an hour, being first reported by Surfman Kelly, patrolling that section. Small buoyant articles continued to come ashore for days. Some 15 bodies, or parts of bodies, were recovered in the following two weeks in the vicinity of Highland Light, and a few washed up as far south as Chatham.

It is believed that *Portland,* running on schedule up to nearly midnight, had accomplished a part of the distance from Cape Ann to Cape Elizabeth, and had passed, perhaps, Boon Island, and that the storm had so intensified by 1 or 2 A.M. as to stop its progress. In the next 14 or 15 hours *Portland* must have sagged steadily to the southward, still holding together with its nose to the gale, its fuel gradually diminishing, until *Portland* had drifted back across the bay. Somewhere off the end of the Cape the end came, and the wreckage was soon ashore.

Had the end come sooner, *Portland* might have been swept into Cape Cod Bay with the schooner *King Philip,* for earlier the wind was eastward of north. Had she been wrecked in the afternoon the strong tide then running must have carried some of her heavier timbers into the bay. With all the wreckage coming ashore three miles eastward of Race Point station at 7:30 Sunday night, there is reason to believe that *Portland* held together until 6 o'clock and foundered, or was smashed to pieces five to ten miles northeast of Peaked Hill Bar.

The same schooner, *Maud S.,* last to hail *Portland* on Saturday night, by a singular coincidence, brought up with trawls, three months later, from the Stellwagon Bank, off the end of Cape Cod, stateroom fittings, electric wiring and bulbs, identified as belonging to the wrecked steamer.

Portland was built in 1890 by the New England Shipbuilding Company, designed by William P. Pattee, and measured 2,283 tons, 291 feet length, 42 feet beam, 68 feet over guards and 15.6 feet depth of hold. The Portland Company built the engine with cylinder 62 inches diameter by 12 feet stroke, and rated 1,200 horse power. Bath Iron Works built the boilers of return flue type and the paddle wheels were 35 feet diameter, 26 buckets, 8 feet length and 24 inches wide, having a dip of 48 inches. *Portland's* speed was 12 miles.

Many suits were brought against the owners but the courts held the accident to be "an act of God," for which the owners were not responsible.

Governor Dingley, a new steel propeller, replaced *Portland* in 1899, built by the Delaware River Iron Shipbuilding Company, 3,826 tons, 298 feet length, 60.6 feet beam and 17.6 feet depth of hold. Triple expansion engine had cylinders 27½, 44½ and 70 inches diameters by 36 inches stroke, 2,500 horse power, and rated 15 knots. *Governor Dingley* has run summers between Boston and St. John's and was used as a training ship for the merchant marine in the World War.

Tremont was sold in 1910 to the Joy Line, and *Bay State* was rebuilt with a new house above the main deck in 1910. The beam was widened, shaft lowered and feathering paddle wheels installed. *Bay State* was wrecked off Cape Elizabeth in the fog, September 23, 1916, and became a total loss, but no passengers or crew were sacrificed. Captain Levi Foran was blamed by the steamboat inspectors and set down, which was perhaps unfair, as the company held, as sufficient notice was not given of the temporary change of the

regularly stationed lightship for a combination gas and whistling buoy.

Ransom B. Fuller was taken for a naval barracks, New London submarine station, in 1917, and the line suspended, but in 1918 *Ransom B. Fuller* resumed service.

C. W. MORSE MERGES THE EASTERN LINES

C. W. Morse consolidated the Portland Steam Packet Company and other lines running east from Boston as the Eastern Steamship Company. When Morse's affairs later became tangled and the company involved, the Eastern Steamship Company was managed by a committee of the directors.

The company was reorganized under the laws of Maine, December, 1911, as the Eastern Steamship Corporation, with capital $6,150,000, continuing the old company with which was combined holding ownership of the Metropolitan line of freight steamers, and the Maine Steamship Company operating the Portland-New York line. The directors were Calvin Austin, Henry R. Mallory, John F. Hill, William T. Cobb, Charles F. Libbey, William H. Hill, Josiah W. Hayden, R. F. Pepper and Galen L. Stone. The New York, New Haven & Hartford Railroad Company was a large factor in the ownership. The directors authorized $11,500,000 refunding 5 per cent mortgage bonds. In the reorganization Morse was without influence.

The company was petitioned into bankruptcy October 30, 1914, and Calvin Austin made receiver. Sale of the company's property was held at Bangor, January 3, 1917. Jere A. Downs bid it in for the bond and stockholders at $3,366,000. The business was again reorganized as the Eastern Steamship Lines, Inc., Calvin Austin, president, March, 1917. The new company issued $3,750,000 preferred stock, $1,687,000 common and $5,700,000 mortgage income bonds. The Boston & Yarmouth Steamship Company, Ltd., was then controlled by the new company.

The World War aided the company's financial situation and its credit, for *Massachusetts* and *Bunker Hill* were sold to the U. S. Navy and became mine planters *Acushmet* and *Shawmut,* bringing $1,350,000 each; *Old Colony* brought $1,150,000; *Boston,* $110,000; *Henry M. Whitney* and *James H. Whitney,* freighters, $380,000 each, a total of $4,710,000, which was largely employed to retire the company's bonds. The Shipping Board temporarily took over *Governor Dingley, Governor Cobb* and *Calvin Austin* as training

ships, and the loss of so many steamers crippled the service of the lines.

Order was placed with Bethlehem Shipbuilding Company for two small freighters, 1923, engined with unused equipment from the Shipping Board, and the company resumed freight service between New York and Portland with *Wilton* in 1923, and resumed passenger service, New York to Portland, in 1925 with *Calvin Austin*.

PORTLAND AND NEW YORK STEAMBOATS

Service connecting Portland and New York was begun by H. B. Cromwell & Company in 1856 with the propellers *Caledonia* and *Totten,* 400 tons, known as the "Parker Vein Steamers," as they had been coal-carriers between Baltimore and New York. The Cromwell firm added limited passenger accommodation, but the boats were slow and depended on the help of sails.

The New England Screw Steamship Company was organized in 1860, being a Cromwell enterprise, and Captain John B. Coyle was president. The line added *Chesapeake,* Captain Sidney Crowell, in 1861, a wooden propeller, 460 tons, built in 1849. On *Chesapeake's* sailing from New York, December 4, 1863, a party of Confederate adventurers led by John C. Braine came aboard without attracting attention. When *Chesapeake* rounded Martha's Vineyard, in the early morning, the band shot Second Engineer Owen Shaffer and Chief Mate Charles Johnson, then in charge. The shots attracted Captain Willett, who was seized from behind, and bound in his stateroom. Others of the crew of 15 surrendered.

Chesapeake made for Canadian waters but put in at Seal Cove harbor, Grand Menan Island, being then nearly out of coal. Braine went ashore and met Captain John Parker, agent of the enterprise, who reported his failure to get coal, having no funds. Parker, whose name was believed to be Locke, had been master of the schooner *Retribution,* a Confederate privateer. Crew and passengers were put ashore and Captain Willett telegraphed the owners. Immediately government vessels set out from Boston and New York in search. *Chesapeake* was driven by a gale into Shelburne, N. S., and its presence reported in Halifax.

One of the searching men-of-war, *Ella and Annie,* a captured Confederate blockade runner, steamed into Shelburne to find *Chesapeake* had left, but picked up *Chesapeake* at Sambro, coaling from a schooner. *Ella and Annie* towed *Chesapeake* out of the harbor, with only three prisoners, the others escaping. U.S.S. *Dakota* ap-

peared and ordered *Chesapeake* to Halifax and turned over to the authorities. The recapture caused friction, but February 25, 1864, *Chesapeake* was ordered returned to its owners. The Confederates' agent arrived in Halifax too late to prosecute a claim.

Chesapeake continued to run on the New York-Portland Line until April 27, 1881, when it went ashore in the fog at Fisher's Island, then under command of Captain Williams.

Other propellers of the line were *Potomac,* which later burned at sea; *Franconia,* Captain Albert Bragg, a money-maker for the line, and *Dirigo. Franconia* was sold south but burned to the water's edge, and *Dirigo* burned at its dock in the second Portland fire. *Rapidan* was chartered to fill in. C. M. Bailey was president, and the propeller *Eleanora,* built in 1874 by John Englis & Son, was named for his daughter, being 195 feet length, 33 feet beam, 22 feet depth of hold. *Eleanora* became a coal barge. *Winthrop* followed, named for the home of the Baileys. *Winthrop* was a hard roller and burned at Eastport, Me. *Cleopatra,* a wooden propeller, built in 1865, had more passenger accommodation than the earlier boats. In 1880 the Portland boats began to stop at Cottage City, now Oak Bluffs, Martha's Vineyard.

Cottage City, Captain Bennett, and *Manhattan,* Captain Bragg, were sisters built in 1890-91 by the New England Shipbuilding Company, Bath, 1,892 tons, 233.6 feet length, 40.6 feet beam and 24.6 feet depth of hold. They had triple expansion engines with cylinders 22, 34 and 56 inches diameters by 36 inches stroke. It was with these new boats that the line came to be known as the best paying coastwise run out of New York. *Cottage City* was sold to the Pacific Coast Steamship Company and afterwards lost.

Manhattan continued as a spare boat when superseded, running regular in winter, and as an extra in summer. *Manhattan* was discovered to be afire when making Franklin Wharf, Portland, March 10, 1910. The tugs *Hunnybrooks* and *Portland* towed the burning hull to South Portland flats. *Manhattan* had been sold for future delivery for $150,000 and carried but $100,000 insurance. The wreck was sold in Boston for $4,306.

John Englis was named for the Brooklyn shipbuilder who became an important owner in the line. *Horatio Hall* was named for the agent in New York. These were steel-hulled ships, built by the Delaware River Iron Works in 1898 and measured 3,168 tons, 297 feet length, 46 feet beam and 17 feet depth of hold and had triple expansion engine, making 16 knots. They made the Portland run, 390 miles in 22 hours. During the Spanish War, *John Englis* was

Brilliant sunlight of early morning shines on the after deck

sold to the Government and became the hospital ship *Relief,* and being a bad roller relief was enjoyed by the owners when she went.

Horatio Hall, under command of Captain E. Jewell, collided with the freighter *Henry F. Dimock,* March 10, 1909, in the fog off Nantucket Shoals. *Henry F. Dimock* kept its bow wedged in the big hole in *Horatio Hall's* side and took off passengers and crew. The two boats drifted out of the track and *Horatio Hall* sank until only the pilot house roof showed above water. The *Dimock* was beached and *Horatio Hall* abandoned to the underwriters, who insisted that an effort be made to save the ship, but the next day when the wrecking fleet tried to find the wreck it had rolled over into deep water and was gone.

North Star, built in 1901, ran alone on the run until *Northland* came on, April, 1910, built at Harlan & Hollingsworth Company, Wilmington, 3,282 tons, 304 feet length, 47 feet beam and 4,000 horse power. *Old Colony,* built at Cramp's in 1907 as a fast Boston freighter, was rebuilt as a passenger liner in 1911 and ran to Portland, being 4,779 tons, 375 feet length, 52 feet beam and 30.2 feet depth of hold with triple screw turbine engines. *Old Colony* was sold to the French early in the war. Rerouting of available steamers in 1917 occasioned the abandonment of the Portland line. *Northland* ran for a time from Boston to Yarmouth and in recent years from New York to Boston.

The Maine Steamship Company was sold three times by its New York agent, Horatio Hall, first when John Englis came to own a considerable part of the stock and President Bailey found himself outvoted, to Knapp & Eldridge, New York bankers, who operated the line four years with R. R. Roome as vice president and general manager, and in 1906 control was sold to the United States Transportation Company, representing the stock ownership of the New Haven Railroad. Stephenson Taylor was president and R. C. Schultze, general manager. This management continued one year when C. C. Goodrich and R. J. Noble succeeded. The Hartford & New York Transportation Company, a New Haven subsidiary, became owner April 1, 1908, and operated the line four years.

During 1908 *Bunker Hill, Massachusetts* and *Old Colony* were added to the Maine Steamship Company's fleet. The Maine Steamship Company was sold to the Eastern Steamship Corporation. When the New Haven directors demurred at selling so profitable a property, President Charles S. Mellen is reported to have replied, "There must be one orange in every basket of lemons."

OTHER STEAMBOAT ROUTES IN MAINE

Efforts to establish direct steamboat connection between New York and Penobscot landings have not been successful. *Kanawah,* 536 tons, built at Bath, 1881, ran for some years and was sold to go South, 1895, and was lost 1898. *Tillie* and *Lucy P. Miller,* small propellers, served for a time, making occasional trips from Eastport. In 1898 the Manhattan Steamship Company was organized to operate steamboats between New York, Penobscot River towns and Rockland. Service was begun with *Pentagoet,* 332 tons, 128 feet length, a wooden propeller built at Philedalphia in 1864. *Pentagoet* was built for a United States gunboat during the Civil War and was then called *Moccasin,* being transferred to the Great Lakes revenue service in 1866, and then, named *George M. Bibb,* was sold by the Government in 1890. *Pentagoet* left New York for Bangor, November 25, 1898, commanded by Captain Orris Ingraham, with a crew of 17, all of whom were lost in the same great storm in which *Portland* foundered. *Pentagoet* was reported passing Highland Light a few hours before the storm struck and was never seen or heard of again.

When the Plant Railroad & Steamship Company of Florida, operating between Key West and Havana, looked about in 1888 for a summer run for its magnificent new steel steamship *Olivette,* built at Cramp's the year before, it selected the Boston and Bar Harbor route, an overnight run, three round trips weekly. In her first season *Olivette,* commanded by Captain James McKay, ran down a lumber and ice schooner in the fog but did no damage to herself. She remained on the run until 1891 when run off by railroad opposition. *Olivette* ran between Boston and Halifax beginning 1892 and was lost off the Cuban coast in 1918.

Captain Samuel Barbour of Brewer organized the Barbour Line connecting Bangor and Bar Harbor in 1875 with the propeller *Little Buttercup,* followed by *May Field, Queen City, City of Bangor* and *Cimbria,* propellers. *City of Bangor* became *City of Portsmouth* and burned at Salem, 1894. *Cimbria* was named for a Russian cruiser which lost its bearings on the coast and which Captain Barbour piloted to deep water. *Henry Morrison,* a side-wheeler built in 1854, was the last steamer, and the line retired in 1906 because of railroad competition. *Tremont, Sedgwick, Silver Star* and *Golden Rod,* small propellers, also ran under the Barbour flag for short periods.

The Maine Central Railroad operated *Sebenoa* and *Sappho,* built at Bath in 1880 and 1886 as propeller ferries between Mt. Desert and the railroad shore connection at Hancock. *Sieur des Monts* and *Norumbega* followed in 1902, and in 1911 and 1913 the steel twin-screw propellers *Moosehead* and *Rangely* were added, 652 tons, 185 feet length, 35.6 feet beam, 13.6 feet depth of hold and twin quadruple expansion engines of 1,200 horse power with cylinders 16, 26, 30 and 30 inches diameters by 24 inches stroke. Their speed is 19 knots. *Rangely* was sold in 1925 to the Hudson River Day Line, becoming *Chauncey M. Depew.*

City of Richmond, long on the Rockland, Bar Harbor and Machias service was replaced with *Frank Jones,* the first steamboat with inclined beam engine in Maine waters which later ran out of Fall River and on the Hudson as *Fenimore,* and was blown up carrying ammunition for the fleet at York River base. *Pemaquid,* ex *Long Island,* built in 1893 at Philadelphia, 409 tons and 132 feet length, followed.

The Calais Steamship Company operated the propeller *Norwich* between Boston and Eastport and Calais in 1872. The Boston & Maine Steamship Company was organized in 1887 by Captain Charles Deering and ran *Forest City* and *John Brooks* a few trips between Boston, Castine, Bar Harbor, Southwest Harbor and Machiasport. The Maine Coast Steamship Company was organized in 1908 to run from Boston to Machias and Eastport and employed two lake propellers *Massasoit* and *Mohawk,* which ran for several seasons and were then laid up, but came out again in 1918 managed by the Maine Coast Company.

The earliest steamboats running in Casco Bay, from Portland to Peak's Island were *Express* and *Gazelle,* operated by the Peak's Island Steamboat Company. *Gazelle* was afterwards rebuilt and renamed *Forest City.* The Union Steamboat Company ran opposition with *Emita* and *Cadet,* and later the company was known as the Star Line Steamboat Company. The two lines were consolidated as the Casco Bay Steamboat Company and in July, 1887, the new company brought out *Forest Queen,* followed by *Pilgrim* and *Merry-coneag,* all propellers.

The former New Bedford line freighter *City of Fitchburg,* then named *Surprise,* ran between Eastport and Boston, 1900-03, operated by the Boston & Maine Steamship Company in the interest of the sardine canners, calling at Isle of Shoals.

In 1847 the steam schooner *Decatur* ran between Boston and Kennebunk and in 1867 the propeller *Enterprise,* Captain F. W.

Leavitt, ran between Boston and Saco and Biddeford, but the services were short lived.

BOSTON, MAINE AND CANADA ROUTES

Royal Tar inaugurated the first regular steamboat service connecting Maine and Nova Scotia ports in 1836. *Royal Tar* was a wooden side-wheeler, named for King William IV of England, built at St. John, N. B., to run from St. John to Portland, connecting with the Boston steamers, and was 164 feet length, 24 feet beam and 400 tons and cost $50,000. John Hammond and D. J. McLaughlin were owners, and on the first trip, May, 1836, *Royal Tar* carried 200 passengers.

The following October *Royal Tar* was lost. Captain Thomas Reed, commander, described the accident in Howland's "Steamboat Disasters," published in 1840. Fire was discovered under the deck, and smoke prevented operation of the fire pump, located in the hold. Passengers and crew rushed for the boats. The revenue cutter *Veto* rescued 40 passengers, while 29 passengers and 8 of the crew were lost. *Royal Tar* was transporting Burgess' collection of serpents and birds and Dexter's museum and band, including horses and elephants, all of which were either burned or drowned.

Gazelle followed and was wrecked near St. John, 1838, without loss of life. *North America* began to run in 1839 between St. John and Boston and was running as late as 1843. The Eastern Railroad in 1842 organized service between its then eastern terminus, Portsmouth, N. H., and British Provinces with *Huntress,* Captain Jewett. In 1847 *Admiral* ran for the Eastport Eastern Steamboat Company. *Admiral* was built that year by Lawrence & Son, New York, 650 tons, 224 feet length, 28 feet beam and the engine had cylinder 48 inches diameter by 11 feet stroke. *Admiral* ran many years between Boston and St. John, calling at Eastport.

Commodore and *Governor* ran between Portland, Eastport and St. John in connection with the Eastern Railroad, and in the late '40's and early '50's *Maid of Erin* and *Fairy Queen* operated in eastern trade. The Calais Steamboat Company was organized in 1851 and operated *Eastern City* and *Adelaide* between Boston and St. John, calling at Portland and Eastport.

The International Steamship Company was organized in 1860 to operate between Boston, Portland and New Brunswick and Nova Scotia ports. The Portland Steam Packet Company was closely identified with the project. The line took over *Eastern City* and

Admiral, built *New Brunswick* in 1860 and *New England* in 1861. *New England* went ashore in the fog near Eastport, July 22, 1872, and was then rebuilt as *City of Portland.* It went ashore again in 1884 and was a total loss. *New Brunswick* finished as a Boston harbor excursion boat.

New York was added in 1862. It had been built at Clayton, N. Y., in 1852. *New York* was celebrated in the Civil War as the "flag of truce boat" for the exchange of prisoners on the James River. It left the line in 1885, went into excursions and later burned.

The same interests began service between Portland, Halifax and St. John's in 1867 with the propellers *Carlotta* and *Chase,* and the line became New England & Nova Scotia Steamship Company in 1872. *Falmouth* was built for this line, 1,156 tons, 240 feet length, with engine having cylinder 54 inches diameter and 11 feet stroke. *Falmouth* was commanded by Captain Colby. The Halifax service was abandoned in the early '80's and *Falmouth* joined the International fleet. It burned April 29, 1884, while undergoing repairs at Portland.

State of Maine came out in 1882, built by the New England Shipbuilding Company, Bath, 1,409 tons, 241 feet length, 37 feet beam and 1,200 horse power. *Cumberland,* slightly larger, was added 1885. Both boats were sold to the Joy Line in 1902, becoming *Edgemont* and *Larchmont.* The International added *St. Croix,* a wooden propeller, in 1895, of 1,994 tons, 240 feet length and 40 feet beam.

The International Steamship Company was gathered in by Morse in 1901. *Calvin Austin* was built in 1903 and *Governor Cobb,* 1907, by the Delaware River Shipbuilding Company for the run. *Calvin Austin* is 298 feet length, 60.6 feet beam, 17.6 feet depth of hold and 3,826 tons and has triple expansion engine of 2,700 horse power. In recent years *Calvin Austin* ran between Boston and New York, being transferred to the Portland-New York service in 1925. *Governor Cobb* measured 2,522 tons, 289 feet length, 54 feet beam and was driven by three Parsons turbines of 2,500 horse power, built by W. & A. Fletcher Company. In the winter season *Governor Cobb* ran between Key West and Havana.

The United States Mail Line, promoted by Spear, Lang & Delano, began opposition service 1863 between Boston and St. John's, using the old iron-paddler *Dawn,* built in England in 1847 for the Irish cross-channel trade. *Dawn* was a blockade runner in the Civil War

and captured, being renamed *Admiral DuPont,* but the line had a short career.

The New England and Arcadia Steamship Company was organized in 1882 to connect Maine and Nova Scotia ports. It began with *Frances,* 980 tons, built at Wilmington in 1865 and chartered from the Providence & Stonington Line. The Maine Central Railroad succeeded to ownership.

The St. John's & New York Line, stopping at Eastport and Yarmouth, was organized as the New York Steamship Company, 1890, and operated *City of Columbia,* a former Charleston, S. C., propeller of 1,878 tons.

THE YARMOUTH LINE

The Yarmouth Steam Navigation Company, operating between Boston and Yarmouth, began with *Eastern State,* 1855, followed by *Relief,* 1862; *Scotia,* 1864; and *Linda,* later known as *Dominion,* 1866. *New Brunswick* was chartered in 1882. The Nova Scotia Steamship Company was purchased in 1885 by Hon. Loran E. Baker, who organized the Yarmouth Steamship Company to promote tourist business. *Yarmouth,* 220 feet length and 14 knots speed, was built on the Clyde in 1887. *Boston,* 25 feet longer, was added in 1890, remaining in service until sold in 1917.

The Dominion Atlantic Railway Company, English owned, purchased the Yarmouth Steamship Company, and in 1897 brought out the twin-screw steamship *Prince Edward,* 1,400 tons, 260 feet length, built at Hull, England, and 19 knots, later sold in Germany and lost in the Baltic. *Prince George* and *Prince Arthur* were added in 1899, being 2,040 tons, 290 feet length, 38 feet beam and 20 knots speed.

The Eastern Steamship Corporation bought the marine lines of the Dominion Atlantic Railway Company in 1912, the property being then the Boston and Yarmouth Steamship Company, Ltd., and it continued under the British flag until 1917 when *Prince George* and *Prince Arthur* were taken by the British Government for hospital ships. Service was suspended for a time, when freight service was resumed by *Aranmore. Northland* ran on the route in 1919.

John Orrell Lever of Manchester, England, projected fast steamship service between Galway and St. John's to carry messages, before the coming of ocean cables, the steamers coming on to Boston and New York. The Galway Line built *Connaught, Hibernia,*

Columbia and *Anglia,* but only *Columbia* reached Boston in 1861. The enterprise failed.

Sable Island made one round trip, St. John's to Boston, in 1914, but the enterprise was given up. The Boston-Newfoundland Shipping Company was organized in 1917 by Boston capital and employed the auxiliary schooner *Aviator,* which was wrecked on the first trip.

HALIFAX STEAMER CONNECTIONS

Buena Vista was advertised as "running regularly" between Boston and Halifax in 1848, being the old-timer *General Jackson,* built by Smith & Dimon, New York, 1828, for Peter Simmons, and which ran to Peekskill when owned by Cornelius Vanderbilt and Daniel Drew. *General Jackson* was only 114 feet length, 22 feet beam and a small boat for an open water exposed route. *Sir John Harvey,* wooden propeller, followed in 1852.

F. W. Nickerson & Company started their line in 1868, making Halifax and going on to Charlottetown, P. E. I. The line, under several managements, continued many years. *Oriental,* a captured blockade runner, *Commerce* and *Alhambra* began the service followed by *Carroll* and *Worcester* and *Somerset,* which had been operated between Baltimore and Liverpool by the Baltimore & Ohio Railroad Company. *Worcester* and *Carroll* were worn out in the service and were broken up in 1894.

Merrimack, built at Boston in 1861 by Harrison Loring, and *Mississippi* were built for New Orleans service, but the Civil War interfered and they ran from New York to Rio de Janeiro. *Mississippi* was lost in 1869 while *Merrimack* returned to the Boston-Halifax run and was lost July 10, 1887.

Small & Hathaway of St. John's began opposition between Boston and Digby, Annapolis, Windsor and Halifax, 1880, running *Hunter* and *Scout,* propellers, and *City Point,* a paddler, which made but a few trips. Smith & Hathaway sold to the International. *Scud* ran to Halifax in 1882.

The Canada Atlantic Steamship Company, Ltd., was formed in 1888 and *Halifax,* built at Glasgow, 1,738 tons, 250 feet length, 31 feet beam and triple expansion engine, began trips. Soon after all lines running to Halifax were pooled to avoid wasteful competition. *Olivette* was transferred to the line in 1892, which brought in the late Henry B. Plant, the line then being named Canada Atlantic and Plant Steamship Company. *Florida,* an English-built

steamer of 1,786 tons, ran between Halifax and Charlottetown in connection. *Olivette* went into Spanish War service in 1898.

La Grande Duchesse was built in 1896 at Newport News, 5,018 tons, 380 feet length, 47 feet beam, 28 feet depth of hold with twin quadruple expansion engines of 6,300 horse power, built to run between New York and Charleston winters, and between Boston, Halifax and Charlottetown summers. Following the death of Mr. Plant in 1899 *La Grande Duchesse* was sold to the Savannah Line, and later ran to Porto Rico as *Caroline,* then a single screw boat, and was sunk June 2, 1918, by submarine.

Halifax continued to run with *A. W. Perry,* and in 1912 *Evangeline,* 4,600 tons, 365 feet length, 46 feet beam, was built at Glasgow for the run, the finest steamship running to the provinces. *Evangeline* came under the American flag in 1914 and made one trip to Manchester, England, running to Bermuda in 1916 and sold in 1917 for foreign service. *A. W. Perry* was wrecked at Halifax, June 10, 1915, and *Halifax* was sold in 1917 and was never heard of after leaving New York, 1918, for an English port.

With the Plant Line out of existence the Nova Scotia Steamships, Ltd., controlled by the Federal Line of New York, instituted freight service with the propellers *Cascapedia* and *Our Lady of Gaspé. Cascapedia* foundered and was replaced by *Sagamore,* a former yacht.

CHAPTER XV

Steamboats of the Delaware River

JOHN FITCH built, at Philadelphia in 1787, the first steamboat to run on the Delaware River, propelled at first by paddles worked in frames and later replaced with side wheels. Fitch had tried the endless chain drive and abandoned it. His engine had cylinder heads of wood, which leaked steam, and ill-fitting pistons, while the valves did not seat and the condenser gave trouble. The early defects were corrected and a pipe condenser substituted, invented by Voight, a watchmaker. Several trips were made to Burlington and a single trip made to Trenton.

When Fitch's steamboat became reliable, with speed of three or four miles, the boiler was found to be too small, being of pipe type and set in brick. The engine, having cylinder 12 inches diameter, was replaced in 1788 with one of 18 inches cylinder diameter. The second engine was next installed in a new hull. Fitch's first steamboat was 45 feet length and 12 feet beam, and the second 60 feet length and 8 feet beam, driven with stern paddles. Fitch suffered mostly from boiler troubles. He made a 20-mile trip to Burlington in 1788, but the boiler failed and he returned floating on the tide.

Another of Fitch's steamboats attained seven miles' speed in 1790, and he wrote: "We reigned lord high admirals of the Delaware." This boat was placed in passenger service between Philadelphia, Burlington, Bristol, Bordentown and Trenton, June, 1790, occasionally leaving the route to call at Chester and Wilmington. Fitch's biographers claim this steamboat ran between 2,000 and 3,000 miles, and Fitch steamboats were first, perhaps, in regular passenger service.

The need for better transportation across New Jersey, connecting New York and Philadelphia, was early recognized by John Stevens. Prevented by the monopoly from operating steamboats in New York waters, Stevens sent *Phœnix* to the Delaware River in 1809. The first trip of *Phœnix* was from Philadelphia to Bristol, commanded by Captain Davis, and Robert L. Stevens was engineer. With favorable wind and tide, "she ran from Philadelphia to Bordentown

in three hours, and five against the tide." *Phœnix* had no wheel house and presented a singular appearance, as the water would often be thrown as high as the stack.

Phœnix was a far step in advance and it is surprising that so much sound and enduring design should have been incorporated in one of the first steamboats, both in engine, boiler and hull. It had 37 sleeping berths and ran for a few years between Philadelphia and Bordentown, 28 miles, becoming obsolete by the fast-crowding changes and was laid up on Kensington flats, below Philadelphia, where it rotted.

Philadelphia, built at Hoboken in 1813, succeeded *Phœnix.* Robert L. Stevens introduced several devices, including screw bolts, replacing tree-nails, and diagonal knees of wood and iron, and two years later he altered the engines, arranging them to work expansively. *Philadelphia* was known as "Old Sal," taking the name from the grotesque figurehead. The great demand of travelers was met by *Pennsylvania* and *Ætna,* running to Bordentown; *Philadelphia* to Trenton; *William Penn* and *Bristol* to Bristol, while down the river *Superior* and *Vesta* ran from Philadelphia to Wilmington and *Baltimore* and *Delaware* ran to Newcastle.

Passengers from Philadelphia were carried up the Delaware to the terminals of the stage lines having traffic exchange with the boats. There were a number of stage companies operating "Flying Machines," and so energetically did they solicit business that rate wars occasionally broke out when the price of a through ticket, New York to Philadelphia, dropped to a dollar. "Flying Machines" replaced the slower box coaches. They were equipped with springs under the passenger seats, and faster time could be made in comfort over rough roads.

The gateway to the West was by way of Philadelphia and Pittsburgh, and the first leg of the journey was across New Jersey from New York. Business was large with the opening of the western states to an eager pioneer population. Later there was great competition between the connecting stage and steamboat lines, and the stages which covered the whole distance by road.

Philadelphia had run in New York and New Jersey waters before it came to the Delaware River to replace *Phœnix* in 1815. Captain Elisha Jenkins was commander, and a favorite with travelers. *Philadelphia* carried a small brass cannon on the fore deck, which was fired on arrival at Burlington, but when it burst and killed a deckhand, was never used again. It was felt that a better and faster boat than "Old Sal" would never be built, but it wore out

A Concord coach comes clanking down the road to the dock house

in the service. A small boat named *Bristol* was built in Philadelphia in 1819, commanded by Captain Myers, and ran to Bristol during three following seasons, taking fire while moored to the dock. A second small boat, *Sea Horse,* built in New York, ran opposition one season.

The Stevens enterprise on the upper Delaware was incorporated as the Union Line, and the boats successively in their service were *Phœnix, Philadelphia, Rain Bow, Swan, Stevens, Stockton, Nelson, Burlington, Trenton* and *Belknap.* The Union Line met opposition in 1820 when the Citizens' Line was formed. The newcomers began with *Ætna,* Captain Davidson, and *Pennsylvania,* Captain Kellum. These boats had high pressure engines, built after Oliver Evans' designs, but after running a season, the engines were changed to low pressure and *Ætna* left for New York. *Ætna* had a boiler flue collapse, May 15, 1824, when a number of persons were scalded and 12 lives were lost, and it finished as a freight boat. *Pennsylvania* became a towboat.

The Union Line secured *Franklin,* Captain Joseph Jenkins, in 1821, built in New York, but after a single season it returned. *Albemarle* was a New York boat owned by the Citizens' Line in 1822, running two years, and returning to New York. While the upper river was served by two companies a newcomer attempted to divide the business, introducing *Congress,* built in New York and commanded by Captain De Groot. *Congress* was the first steamboat on the Delaware to tow a safety barge, but quit at the end of two years.

Trenton was built in 1824 at Hoboken for the Union Line, with Captain Harry Hinkle, master, a popular boat on the route for many years, wearing out in service. *Burlington* was built in 1827 at New York for the Union Line, Captain Kester commanding. It ran several years, finishing as a freight boat. The Union Line ran *Rain Bow* for a single season.

New Philadelphia was built at Philadelphia in 1826, with Stevens' engine, commanded by Captain Joseph Jenkins. It ran two seasons on the Delaware and went to New York for Albany service. This was the first large steamboat on the Delaware, 170 feet length, 24 feet beam, with engine having cylinder 55 inches diameter by 10 feet stroke. *New Philadelphia* became a towboat and was broken up. *Emerald* came to the Citizens' Line in 1834 but did not stay. Jacob Ridgeway combined stage coaches with his independent steamboat for through business from New York to Philadelphia, and so bitter did the fight become that fares from Philadelphia to Borden-

town were cut from 50 cents to six cents. The Union Line found the opposition too strong to be easily shaken off, and too harmful to be endured, and purchased Ridgeway's business, including steamboats, stages and valuable Philadelphia river front property, including a ferry to Camden.

The Camden & Amboy Railroad was chartered in 1830 and 14 miles of track between Bordentown and Hightstown was completed December 22, 1832. One part of the track was finished in 1831, when a locomotive pulled a train for a few miles. The road followed the commonly traveled path across the state which had been used for 150 years. It had grown from a trail through the forest by which the journey between New York and Philadelphia had been made on foot in five or six days. Next had come the "Flying Machines," which met the smart sailing sloops at Amboy and then the regular line stages, which cut the time as increased business allowed more frequent changes of horses. When the rail lines were completed from South Amboy to Bordentown, steamboats connected for either terminal.

Robert L. Stevens was the first president of the Camden & Amboy Railroad. He purchased in England the first locomotive to run in New Jersey, "John Bull," which arrived in Bordentown in 1831. It hauled three omnibus bodies mounted on a single truck. When the railroad was opened, the Philadelphia journey was made, first by steamboat from New York to South Amboy, 23 miles; next, by railroad to Bordentown, 36 miles, and by steamboat to Philadelphia, 28 miles. Steamboats departed from Hudson River pier, near the Battery in New York, at 6 A.M. in summer and 7 A.M. fall and winter.

A writer in the "North American," 1839, describes the journey:

> "A busy scene ensues immediately after leaving the dock in New York, from the crowding of passengers to the office window to pay the fare, $3, and to arrange for the seats in the rail cars; on this the comfort and pleasure much depend, of a party of ladies or gentlemen, and this should, if possible, be attended to immediately, before or after sailing, or even the day previous . . . as the hurry and pressure at times on this occasion is disagreeable. . . .
>
> "On arriving at South Amboy, the cars and locos will be found in readiness on the wharf; the ascent soon enters a line of deep cutting through the sand hills, and continues in a barren and uninteresting region to Hubertsville,

Hightstown, Spotswood and Centreville, 36 miles to Bordentown, on the Delaware River. . . .

"The cars make a pause on the banks of the Delaware, and a change of conveyance takes place, usually to the steamboat, down the river to Philadelphia, although the railroad is continued on the east side of the river, 28 miles to Camden. The change in the mode of getting on from Bordentown, for the remaining distance by water, of 28 miles, will be grateful and will, like the part just traveled on the rails, occupy two hours and a half very agreeably. The passengers from New York will arrive at Philadelphia at 3 P.M. by the steamboat."

The Delaware and Raritan Canal, connecting the Delaware and Raritan Rivers and Staten Island Sound, forming a complete inland waterway between Philadelphia and New York, was begun in 1831 by a stock company which was, in the same year, united with the Camden & Amboy Railroad, and under the same general management the waterway was completed in 1838. Important turnpikes were also owned by the company, which gave it a practical monopoly of travel between the two large cities, enabling the road to average 11 per cent dividends for 27 years, when other pioneer railroads failed to earn a penny for their stockholders.

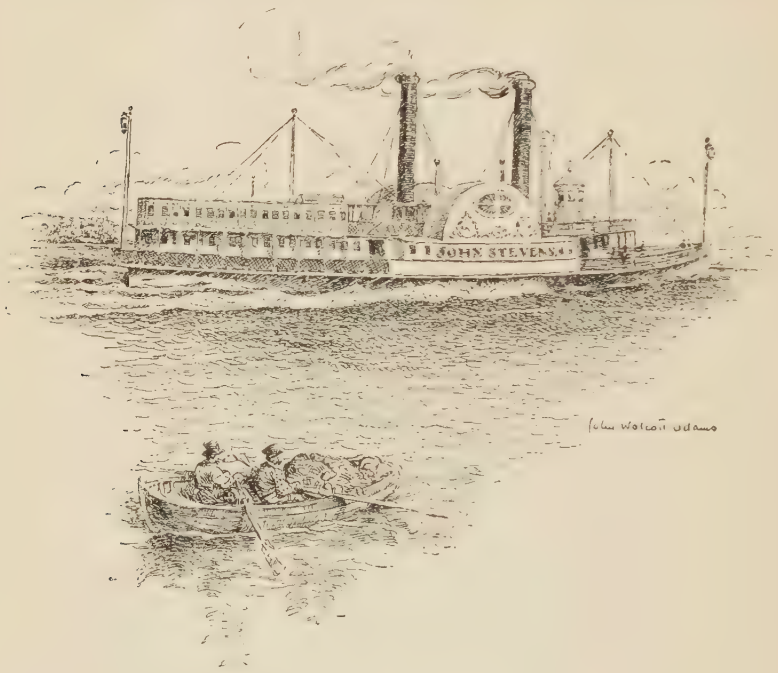
The State of New Jersey was party to this monopoly, receiving 1,000 shares of stock in the company for a 60 years' charter, practically eliminating competition. It was felt that the railroad and canal would produce sufficient income from travelers, not citizens of the state, to maintain the state government.

Almost ten years elapsed before the directors of the company issued a statement of affairs. The report invited the closest scrutiny into expenditures, however, the cost of the works being $6,064,953.42 and the capital $2,900,000. The difference had been borrowed at 6 per cent. In six years of operation the gross receipts of the railroad were $4,169,492 and expenses $1,966,901 and the net income $2,202,591. During the same period, 1834-39, the Delaware and Raritan Canal figures were: receipts, $306,895; expenditures, $210,344; and net income, $96,551. The Canal had cost $2,829,760 and the railroad had cost but little more to build.

The Union Line next put *Swan* into service and bought up *Hornet* which had been built by Joseph Ridgeway at Crosswick Creek, and ran in opposition. *Marco Bozzaris,* from Nantucket, ran part of one season while *Gazelle,* Captain B. McMackin, ran in

1848. *Mountaineer* and *Appoquinimink* were two small boats that filled in. *Sun, Balloon* and *Bolivar* fought the Union Line.

John Stevens was designed and built by Robert L. Stevens at Hoboken in 1844, an iron vessel, 245 feet length, 31 feet beam, 65 feet over guards and 11 feet depth of hold. The engine was steeple type with vibrating crosshead, having cylinder 75 inches diameter



John Stevens, a fast link in New York-Philadelphia travel

and 6 feet stroke. *John Stevens* was one of the first large iron steamboats built in the United States, and ran between Philadelphia and Bordentown in 1846, making better than 19 miles' speed, continuing until 1855 when it burned at White Hill, near Bordentown. The hull was built into a cattle transfer boat in 1865, serving the Pennsylvania Railroad in New York harbor many years. *Nelson* and *Joseph Belknap* were built in New York for the Union Line, and *Thomas Powell* ran on the Cape May route, returning to the Hudson.

The Camden & Amboy Railroad's Union Line authorized *Richard Stockton,* designed by Robert L. Stevens, and built by Harlan & Hollingsworth Company, Wilmington, in 1851. *Richard Stockton* was 270 feet length, 20.8 feet beam, 62 feet over guards, and 8.7 feet depth of hold. The engine cylinder was 48 inches diameter by 12 feet stroke. There were at first two boilers on the guards, and later a single boiler in the hull. *Richard Stockton* had Morgan feathering paddle wheels, 22 feet diameter with buckets 10 feet long and 30 inches dip, and measured 1,048 tons.

William Cook, 300 feet length, with two fore and aft stacks, was built in the '60's and ran with *Richard Stockton,* the last steamboats to connect New York and South Amboy, for in 1875 the Jersey City Terminal of the Pennsylvania Railroad was completed. *Richard Stockton* went to the Philadelphia-Cape May service and ran between Jersey City and Newburgh in 1881, and in 1888 ran excursions from Philadelphia, always being owned by interests associated with the Pennsylvania Railroad and its predecessors.

When the South Amboy service was discontinued *William Cook* was chartered for excursions in New York waters and sold soon after to Major Cornell, becoming a milk boat and making seven weekly trips from Rondout to New York. When the West Shore Railroad was completed the milk route was abandoned and *William Cook* was broken up at Port Ewen in 1881.

The Merchants' Transportation Company was organized in 1838 to connect New York, Philadelphia and Trenton. The line was purchased by John A. Roebling & Sons interests in 1901, and since 1914 has been known as the Trenton Transportation Company operating the Dolphin Line. The wire cable for the Brooklyn Bridge was moved from Trenton to New York by the boats of this line.

F. W. Brune, an iron steamboat, built at Wilmington in 1860, is the oldest steamboat on the Delaware (1923), a freighter 296 tons, 129 feet length, 23 feet beam and 7.6 feet depth of hold. *F. W. Brune* has a splendid Civil War record, carrying troops by the inside passage from New York to Washington, D. C. *John W. Garrett,* also of the Dolphin Line, is almost as old, having been built at Wilmington in 1867, a freighter of about the same size. Others of the Dolphin fleet are the excursion and freight service side-wheelers *Dolphin, Trenton* and *Queen Anne,* and the propeller *Springfield.*

John A. Warner ran to Trenton in the late '70's, the name being changed to *Burlington.* It struck a rock and foundered in 1911 and was abandoned. A small passenger steamer, *Trenton,* Captain J. H. McIntyre, ran between Trenton and Bristol in 1896-97 and there-

after through to Philadelphia. *Twilight,* Captain J. H. McIntyre, owned by the Delaware River Navigation Company in 1897, ran between Trenton and Philadelphia, leaving on schedule irrespective of tides which had previously determined sailing hours.

Thomas A. Morgan was built by Harlan & Hollingsworth Company in 1853 for the upper Delaware, owned by Rockhill, Burden, Cone "and others," and measured 530 tons, being 190 feet length, 28 feet beam, 8.9 feet depth of hold. The engine had cylinder 44 inches diameter by 10 feet stroke. *John A. Warner* followed in 1857, built by Harlan & Hollingsworth Company, an iron-hulled side-wheeler, 220 feet length, 27.9 feet beam, 53 feet over guards and 9 feet depth of hold, and was rebuilt in 1876. The engine cylinder was 44 inches by 11 feet stroke and wheels 30 feet diameter, with buckets 8.2 feet length and 45 inches dip. The Upper Delaware River Transportation Company were owners.

Twilight was entered in the name of Captain H. Crawford "and others" in 1868, built at Wilmington, 175 feet length, 27.6 feet beam, 8 feet depth of hold. The engine had cylinder 38 inches diameter by 10 feet stroke. *Highlander,* a Hudson River boat, was used as a tug, and in 1866 the engine was placed in a new hull, known as *William H. Aspinwall. Josephine,* built in New York by Lawrence & Foulkes in 1852, and 200 feet length, 30.6 feet beam and 9.7 feet depth of hold, ran between Philadelphia and Lincoln Park. *Josephine* was latterly known as *Henry E. Bishop.*

Edwin Forrest was built in 1865 at Chester by Reany, Son & Archbold for Captain McMackin and was 196 feet length, 27.9 feet beam and 7.7 feet depth of hold. The engine came from a previous steamboat of the same name and I. P. Morris Company, Philadelphia, built the boilers. Much of the joiner work came out of the old boat. It ran between Philadelphia and Trenton. *John McMackin,* a stern-wheeler, ran opposition. Later, *Edwin Forrest* was owned by Captain Cone and Captain Stackhouse who commanded, succeeded by Captain John Cone. Captain J. H. McIntyre was mate in 1880 and commander during *Edwin Forrest's* last seven years. The line was abandoned and *Edwin Forrest* sold in 1895.

John Barnet was built in Philadelphia in 1852 to navigate the Delaware River above tide water, running from Lambertsville to Easton, Pa., but after one season the run was discontinued for want of patronage. A small boat also ran out of the Schuylkill River but was forced to quit because of low water.

Captain Whilldin, Jr., opposed the Camden & Amboy Railroad's Union Line for two or three seasons, and at his death the boats

were purchased by Captain Jonathan Cone, who organized the Delaware River Steamboat Company. Captain Cone conceived the magnificent steamboat service which made his company notable. Under his management the finest steamboats on the Delaware River were built. The first was *Columbia,* built in 1876 by Harlan & Hollingsworth Company, 220 feet length, 33 feet beam, 60 feet over guards and 9.6 feet depth of hold. The engine had cylinder 50 inches diameter by 11 feet stroke, and the wheels were 30 feet diameter with 22 buckets, 9 feet length, 24 inches width, having 30 inches dip. *Columbia* was an iron-hulled steamboat and measured 663 tons, and ran first as a liner on the upper river and later excursions on the lower river. *Columbia* was first commanded by Captain Cone, followed by Captain George Tyler, Captain Frank Edwards and Captain David Campbell.

While *Columbia* was running on the upper river *Twilight* ran to Bristol, making two trips daily, and *Edwin Forrest* ran daily trips to Trenton. *Nellie White,* 1876, *Gem* and *Springfield* ran to Bordentown. *Florence,* formerly *Silver Star,* ran to Florence, owned by George F. Tyler and rebuilt at Harlan & Hollingsworth Company's yard, and a new deck house installed. *Florence* burned in the late '80's at Florence dock. *John A. Warner* and *Sue* also ran between Philadelphia and Bristol.

The Upper Delaware Navigation Company was succeeded by the Delaware River Transportation Company which operated *Columbia, Twilight, Bristol* (formerly *Sue*) and *Burlington* (formerly *John A. Warner*). The company absorbed the Bordentown Transportation Company, acquiring *Springfield. Burlington* sank opposite Bordentown in 1912, and the company leased *Princeton* (formerly *City of Trenton*), the company having lost *Springfield* in litigation. The Wilmington Steamboat Company started a competitive service in the upper Delaware but withdrew when *City of Trenton* exploded a boiler, opposite Torresdale, and 27 lives were lost. There was then no competition on the upper river until 1915 when the Dolphin Line began with two passenger steamboats, *Dolphin* and *Trenton.*

John Sylvester came to the Delaware in 1878. *John Sylvester* first ran from Richmond to Norfolk and afterwards about New York in summer, and out of Jacksonville, Fla., on St. John's River, winters. *John Sylvester* was 207 feet length, 30 feet beam, 50 feet over guards and 9.7 feet depth of hold. The engine was built by Murphy, McCurdy & Warden and had cylinder 44 inches diameter by 10 feet stroke. *Sylvan Dell* and *Sylvan Glen* were purchased by the Philadelphia and Gloucester Ferry Company in 1886.

Thomas Clyde was built by Pusey & Jones Company, Wilmington, in 1878, for the Delaware City, Salem and Philadelphia Steam Navigation Company to run out of Philadelphia for lower Delaware River ports. *Thomas Clyde,* an iron-hulled steamboat, was 217 feet length, 30 feet beam, 54 feet over guards and 9 feet depth of hold. The engine was formerly installed in *State of Maryland,* having cylinder 50 inches diameter by 11 feet stroke. *Twilight* and *Columbia* ran between Philadelphia and Trenton until 1915, when the operating company went into receiver's hands. They ran with *Bristol* in 1920 in the service of Camden shipbuilders.

CAPE MAY STEAMBOATS

Steamboating to Cape May did not begin until 1824, when *Delaware* was put on by Captain Wilmon Whilldin, pioneer operator of the lower river, making the run from "sun to sun." *Ohio* and *Robert Morris* were added, forming a daily line and the three boats served 15 years. *Rain Bow,* a narrow, fast boat, and *America* and *Napoleon* were running in opposition to *Ohio* and *Morris* in 1837, and so bitter was the competition that fares fell from $5 to 50 cents.

Linnæus was advertised for Cape May in 1838, followed by *Traveller* in 1839, which returned to the route in 1843. *Mountaineer* was a newcomer in 1849, being lost on the Brandywine Shoals the same year. The little *Balloon* from the Hudson was running with *Rip Van Winkle* in 1850 and in 1851 *Thomas Powell* and *General McDonnell,* which ran on the route five years, the fleet opposing the old *Ohio* and *Morris. Roger Williams,* from the Hudson, joined the competition.

Captain Memnemon Sanford with Stanton and Spicer organized the New York, Cape May and Philadelphia route in 1850. He had been active on the Connecticut River and other routes and had organized Sanford's Independent Line from Boston to Maine ports. He brought *William F. Pease, Kennebec* and *Penobscot,* Maine boats, to cover the route.

George Washington, from Baltimore, came on in 1859, running two seasons to Cape May, and *Samuel M. Fenton* began a four years' career on this run in 1864. The same year brought *Manhattan* and *William Kent* and about the same time *Sue, Lady of the Lake, Keyport* and *T. V. Arrowsmith.* The Baltimore steamer *Ironsides* ran to Cape May during the summer of 1873 but was lost on her return trip to Baltimore. *Seaport* was on the route in 1877.

Captain Jonathan Cone brought out the splendid steamer *Republic*

in 1878, built by Harlan & Hollingsworth Company, an iron-hulled steamboat 284 feet length, 37 feet beam, 10.9 feet depth of hold with engine having cylinder 60 inches diameter by 12 feet stroke. *Republic* was fast and made the Cape May run, 105 miles, in 4 hours and 55 minutes, a round-trip in 10 hours for $1 fare. In the same year *Richard Stockton* came to the Cape May route and the two big steamboats did much to popularize the resort.

LOWER RIVER ROUTES

The Salem route was first covered by *Lafayette* in 1824, owned by William Cooper of Camden, followed by *Albemarle,* which burned; *Essex, Proprietor, Linnæus, Flushing* and *Pioneer* in 1836. *Clifton* came on in 1838 and later burned on the Hudson, and *Antelope* and *Express* ran in 1849. Following came *Mountaineer,* which sank in collision off Cape Delaware, *Portsmouth, Miantonomah, Wave* and *Cohansey.*

Major Reybold, Captain Charles Hall, was built in 1852 at Wilmington, iron hull, 204 feet length, 30.4 feet beam and 7.3 feet depth of hold, with engine having cylinder 42 inches diameter by 11 feet stroke. *Major Reybold* was built by Harlan & Hollingsworth Company for the Delaware City & Salem Steamboat Company and always ran between Philadelphia and Salem. *Black Diamond, City of Salem, Vigilant, Margaret, Adelaide, Perry* (1870) and *Queen Anne* also ran to Salem. *Lamokin* ran to Leipsic, Del.

The pioneer steamboat on the Philadelphia-Wilmington route was *Vesta* which was running before 1820, followed by *Superior* and *Wilmington.* Sometime between 1835 and '40 *Wilmington* was sold South, but was lost on the way to the new port. *Emerald* and *New Castle* followed. Captain Whilldin built *Telegraph* in 1833 and it ran in connection with the Wilmington and Baltimore Railroad, giving that road a connection to Philadelphia. The road became the Philadelphia, Wilmington & Baltimore, now the Pennsylvania. *Balloon* ran on this route between 1842 and '50 with *Napoleon.*

Whilldin was built by Captain Whilldin in 1845 and covered the run for 13 years. Thereafter it was altered to a propeller and ran from Philadelphia to Baltimore, continuing until more than 40 years old. *Zephyr* was put on by the Wilmington Steamboat Company in 1850, and ran 13 years when it was sold South and later was lost. *Samuel M. Felton* came out in 1863, continuing until 1885, being then retired as the opposition was keen and fares badly cut. The fight was lively between *Samuel M. Felton* and *Eliza*

Hancox in 1869 and '70 and when *John Sylvester* joined the fleet competition was feverish.

The Wilmington-Philadelphia traffic settled down to a well-ordered business in 1885, known as the Wilson Line, managed by Captain Henry Crawford and J. Shields Wilson. The company operated *Wilmington* and brought out *Brandywine* in 1885, a steel-hulled steamboat built by Harlan & Hollingsworth Company, 177.6 feet length, 25 feet beam, 9.6 feet depth of hold, with a compound

The noise of paddles rose above the beat of rain storms

single-screw engine having cylinders 24 and 42 inches diameters by 24 inches stroke. *City of Chester* was added in 1887, built at Harlan & Hollingsworth Company, 196 feet length, 28 feet beam, 9 feet depth of hold, with triple expansion engine having cylinders 18½, 27 and 42 inches diameters by 24 inches stroke, capable of 20 miles' speed.

The Wilson Line operates *Merchant,* built at Philadelphia, 1904; *Brandywine, City of Chester, City of Wilmington* added in 1910; *City of Philadelphia,* 1910; and *City of Camden,* 1916. The latter three boats are 192 feet length, 32 feet beam, 11.8 feet depth of hold and 740 tons with triple expansion engines having cylinders 19, 29 and 44 inches diameters by 24 inches stroke, rated 1,450 horse power.

Cohansey was the first steamboat recorded running regularly to Bridgeton, beginning in 1845, followed by *Patuxent,* which went into Civil War service and then returned, and by *City of Bridgeton,* built at Kaight's Point in 1872. Captain James McIntyre commanded *Patuxent* and *City of Bridgeton,* which latter went South in 1875. *Ariel,* Captain John Curry, and *Artisan,* Captain Calvin Taggart, a Boston propeller, ran for a short time in 1878. Following Captain Samuel Denny built *Bridgeton,* which ran a year.

After the Civil War three steamboats ran between Philadelphia and Millville at different times, *Chicopee, Helen Getty* and *Alice Preston.* The first two steamboats burned.

Zephyr was first to run to Smyrna, beginning in 1845 and *Kent* in 1846, followed by *Napoleon.* Captain Whilldin brought *Balloon* to the route in 1850 and it continued until sold to the Government. Captain Whilldin built *Pilot Boy* in 1857, which ran until 1862 when Captain Calvin Taggart bought it for the Baltimore-Tolchester route. The next Smyrna steamboat was *John E. Taggart,* a propeller.

The Philadelphia-Bridgeport route was opened in 1840 by *Mayflower,* succeeded by *Napoleon* and in 1850 by *Acorn;* in 1857 by *Logan* and by *Jersey Blue* in 1865. *Logan* went South in 1861 and was burned by the Confederates. *Sarah K. Taggart,* built in 1875, ran to Chester and Bridgeport, afterwards to Millville and in 1875 *Mary Morgan* began running to Bridgeport, and later from Philadelphia to Wilmington, making intermediate stops. *Barkley* ran from Philadelphia to Mount Holly.

Steamboats ran to New Castle and Delaware City in 1820. Among the early boats were *Delaware, Baltimore, New Castle, George Washington, Ohio, William Penn, Carrollton* and *Robert Morris. William Penn* burned in 1834.

Zephyr ran to Dover; *Ariel* to Collins Beach (later going to James River); *Clio* to Odessa, while *John A. Warner* and *Thomas Clyde,* in 1877, ran to Sea Breeze, Collins Beach, Pennsgrove and Chester. *Alice Preston,* Captain James Denny, ran from Wilmington to Pennsgrove. John F. Hart built *Appoquinniminck* to run to Cantwell's Bridge, afterwards Odessa, subsequently sold to go to Yucatan. *Charlotte Vanderbilt,* from the Hudson, succeeded *John A. Warner,* running to Fortexcue.

CHAPTER XVI

Baltimore Steamboats

CAPTAIN EDWARD TRIPPE, of Dorchester County, introduced steamboating to Baltimore waters. He was acquainted with Chancellor Livingston and familiar with Fulton's activities in New York. Captain Trippe induced William McDonald and Andrew F. Henderson to finance the building of the first steamboat to be constructed in Baltimore, built under his direction by William Flanigan at the end of McElderry's Wharf, in 1813. The new steamboat was named *Chesapeake,* being 130 feet length, 22 feet beam and 5 feet depth of hold. The engine was crosshead type with cylinder having 4½ feet stroke, driving side wheels, 10 feet diameter by 5 feet width, through cast iron gears. A flywheel reserved energy for passing center, and the speed was five miles an hour.

Chesapeake had a mast forward with yard and spread a square sail in favorable weather. There was no upper deck, nor pilot house, the pilot standing in the bow and relaying steering directions aft by calling or stamping on the deck. The ladies' cabin occupied the stern and the gentlemen's cabin was forward. *Chesapeake* cost $40,000 to build, and in her first season on the Baltimore-Philadelphia run, by way of Frenchtown, with $6 fare, earned 40 per cent dividends.

One of the first advertisements of the steamboat competition for the sail packets, ran:

"STEAMBOAT

"The steamboat has commenced regularly in the line, and will leave the lower end of Bowley's Wharf every Monday, Wednesday and Friday at 9 o'clock for Frenchtown. The steamboat at Newcastle (the *Delaware*) waits the arrival of her passengers to proceed to Philadelphia.

"N. B. She has performed her first trip this day to French Town and back in 24 hours—a distance of 140 miles."

Chesapeake competed with another Philadelphia sail packet line, by way of Elkton and Wilmington, but the new steamboat was ingeniously exploited and dominated the field, the only steamboat in Baltimore waters for two years. *Eagle* came from the Delaware River and was chartered, being about the same size as *Chesapeake,* and ran four years, afterwards to Annapolis and Patuxent River. *Eagle's* boiler exploded, 1824, returning from Annapolis, killing Henry M. Murray, the first steamboat fatality on the Chesapeake. Both *Chesapeake* and *Eagle* ran excursions, one being advertised, June 12, 1813:

> "The steamboat *Chesapeake,* Edward Trippe, master, will leave the lower end of Bowley's Wharf on Sunday morning next, the 13th instant, at 8 o'clock precisely for Annapolis and return in the evening. Passage, one dollar and the same back. A cold dinner will be provided on board."

Eagle, of the Briscoe-Partridge Line, was the first Norfolk steamboat, 1815, being advertised by Captain Moses Rogers to run between Baltimore and Norfolk and thence to Richmond, returning the same route, the round-trip requiring a week. *Virginia,* built in Baltimore, 1817, commanded by Captain John Ferguson, made the run, Baltimore to Norfolk, in 24 hours. *Virginia* was 323 tons and 158 feet length. *Norfolk* came on in 1819 and cut the time to 20 hours. Other early Norfolk steamboats were *Roanoke,* Captain Middleton, *Surprise* and *Richmond.*

Five steamboats welcomed General Lafayette when he came to Baltimore in 1823 by way of Frenchtown, aboard *United States,* a crack boat of the day, and the reception steamboats included *Maryland, Virginia, Philadelphia* and *Eagle.*

Captain William Rollins commanded *Governor Walcott,* running in the upper bay, in 1830.

Loss of the steam packet *Pulaski,* on the passage from Charleston to Baltimore occurred June 14, 1838, when almost 100 persons perished. *Pulaski,* Captain Dubois, and Captain Pearson, second captain, sailed from Savannah, Wednesday, June 13th, with 90 passengers, arriving same afternoon at Charleston where 65 additional passengers boarded. The starboard boiler exploded that night, blowing off the promenade deck above and shattering the starboard

Steamboats were celebrated for the art of their chefs

side amidships. The bulkhead, separating boiler-room and forward cabin, was stove in and the bar-room swept away.

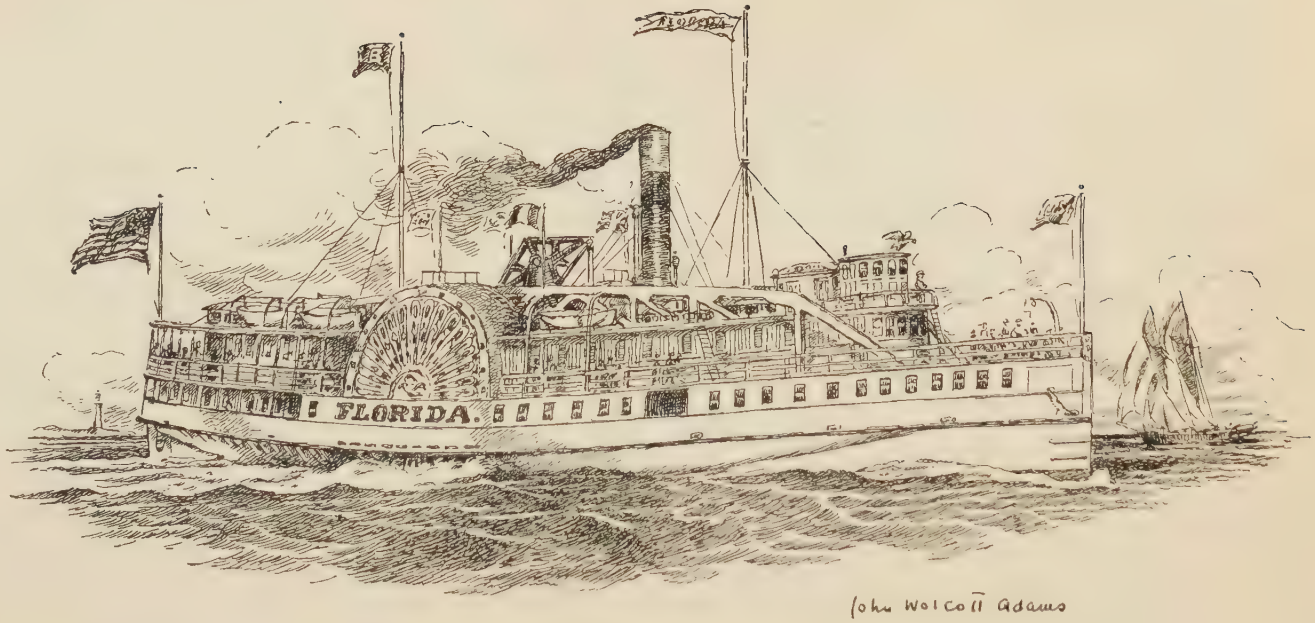
Pulaski submerged in 40 minutes, breaking in three parts. The bow, with Major Heath and 22 others, floated several days before being sighted by Captain Davis of the schooner *Henry Camedon,* bound from Philadelphia to Wilmington, N. C. Survivors clinging to the hurricane deck were picked up by the same schooner, including G. B. Lamar, who later imported the first iron ships and assembled them in Savannah. Sixteen persons were rescued in two boats, 30 floated ashore on two rafts and 13 were picked up from fragments.

THE OLD BAY LINE

A. F. Henderson and William McDonald, who had financed Captain Edward Trippe's *Chesapeake* in 1813, were connected with early steamboats operating between Baltimore and Norfolk. In association with Robert A. Taylor, Joel Vickers, John C. McKim, John B. Howell, Benjamin Buck, Samuel McDonald, Thomas Kelso and others, they organized the Baltimore Steam Packet Company in 1839, chartered under Maryland laws in 1840. A. F. Henderson was the first president and the original directors were the named incorporators. The Old Bay Line continues, one of the oldest inland water transportation services, a subsidiary of the Seaboard Air Line Railroad, having been acquired in 1901.

Captain William Rollins was the first commander in the line which began service with the side-wheelers *Georgia, South Carolina, Jewess* and *Pocahontas.* Succeeding steamboats of the Old Bay Line have been: *Medora,* 1843; *Alice,* 1845; *South Carolina,* 1853; *Louisiana,* 1854; *Adelaide,* 1859; *Philadelphia,* 1860; *William Selden,* 1860; *Georgianna,* 1860; *Thomas A. Morgan* (from Delaware River), 1862; *Æolus,* 1865; *Thomas Kelso,* 1865; *George Leary,* 1866; *Transit,* 1869; *Petersburg,* 1870; *Roanoke,* 1871; *Vesta,* 1871; *Seaboard,* 1873; *Westerer,* 1873; *Florida,* 1873; *Shirley,* 1874; *Cockade City,* 1875; *State of Virginia,* 1875; *State of Maryland,* 1875; *Ella Knight,* 1875; *Raleigh,* 1876; *Gaston,* 1881; *Carolina,* 1877; *Virginia,* 1878; *Georgia,* 1887; *Alabama,* 1892; *Tennessee,* 1898; *Virginia,* 1905; *Raleigh,* 1906; *Florida,* 1907; *State of Maryland* and *State of Virginia,* 1923.

The greatest tragedy suffered by the line occurred to *Medora,* which had not then made its first trip. *Medora* was lying at the wharf, ready to start on a trial trip, with invited guests, Thursday, April 15, 1842. The crowd which collected was so great that



Florida, of the Chesapeake Bay fleet, of a past era

Medora was moved into the stream and invited visitors taken aboard in small boats. The signal to start was given and the wheels had made but two revolutions when the boiler exploded. Of the 82 persons on board 27 were killed and 40 wounded, but 15 escaping injury.

Thomas A. Morgan was built at Wilmington in 1853 for service on the upper Delaware. The Baltimore Steam Packet Company's minutes show that "a committee was appointed to purchase *Thomas A. Morgan*" in 1862.

The Old Bay Line was opposed by the Leary Line in 1866, promoted by the Leary brothers of New York, who competed with *George Leary,* commanded by Captain Blakeman and *James T. Brady,* commanded by Captain Landis, and later by Captain L. W. Freeman of Boston. The Leary Line went out from Spears' Wharf, foot of Gay Street, and made hot competition, which was expressed at every contact, resulting, it was said, in collision between *Louisiana* and *George Leary* when four lives were lost.

The opposition was short-lived, the new bay line being bought up by the Old Bay Line. *James T. Brady* was withdrawn and went almost immediately to Montevideo and sank in that harbor. *George Leary* was operated by the Baltimore Steam Packet Company, being finally sold in Washington and used in Potomac River excursions, and later burned to the water's edge. Captain William Shaw was manager of the Leary Line and James Birckhead agent in Baltimore.

Dictator and *City Point* ran on the James River route, connecting with the Baltimore steamers from Norfolk to Richmond. *Seaboard* is now a freight propeller running between New York and Bridgeport, Conn., *Georgia* and *Tennessee* are now in the service of the Bay State Line, New York and Providence, while *Alabama* and *Florida* and *Raleigh,* a freighter, are in service with the two new steamboats, *State of Maryland* and *State of Virginia.*

TWO NEW SHIPS OF THE OLD BAY LINE

State of Maryland and *State of Virginia,* the two newest steamers of the Old Bay Line fleet, came out in 1923, being 330 feet length and 58 feet beam, built at Wilmington, Del., by Pusey & Jones Company, with three passenger decks, 700 tons freight capacity and many new features to make them outstanding in such service.

The hulls are divided into five water-tight bulkheads, steel main deck, steel superstructure to the main saloon deck, and powered with

THE SOUTH!

Direct from NEW YORK, PHILADELPHIA and BALTIMORE, via the

"BAY LINE,"

To Norfolk, Weldon, Raleigh, Wilmington, Charleston, Augusta, Atlanta, Montgomery and New Orleans.

SPRING AND SUMMER ARRANGEMENT

DAILY, Except Sundays, Via

BAY LINE

AND

SEA-BOARD and ROANOKE R. R.

TO THE ABOVE MENTIONED PLACES.

The SCHEDULE being so arranged that the Traveler is subject to No NIGHT TRAVEL on the RAIL ROAD from

NEW YORK TO WILMINGTON, N. C.

THROUGH TICKETS from NEW YORK to NORFOLK and PORTSMOUTH, Va.			$8 50
FARE from PORTSMOUTH to WELDON,			4 00
Making $12.50 from NEW YORK to WELDON.			
do.	do.	PHILADELPHIA to NORFOLK and PORTSMOUTH, Va.	6 50
FARE from PORTSMOUTH to WELDON,			4 00
Making $10.50 from PHILADELPHIA to WELDON.			
do.	do.	BALTIMORE to WILMINGTON, N. C.	14 50
do.	do.	do. WELDON, N. C.	9 00
do.	do.	do. NORFOLK and PORTSMOUTH, Va.	5 00

PASSENGERS and their BAGGAGE conveyed FREE of CHARGE between the Depots on the route

☞ PASSENGERS by this Line enjoy a comfortable NIGHTS REST on the Bay Steamers, and are privileged to LAY OVER AT NIGHT at any POINT, and resume their Trip by DAYLIGHT

☞ **Particular Notice.**—Passengers from NEW YORK and PHILADELPHIA, by this Line, will have their BAGGAGE checked from those Cities to BAY BOATS, from whence it will be checked to different points South.

☞ For *Further Information* and THROUGH TICKETS, (which are good by the *Bay* or *Mail Line*, apply

In NEW YORK, at the Company's Office, No. 229 Broadway, corner Barclay st., above the Astor House, or at the NEW JERSEY Rail Road Office, Foot of Courtland street.

In PHILADELPHIA, at the Company's Office, N. W. Corner of Sixth and Chesnut streets, or at the Depot, Broad and Prime streets.

In BALTIMORE, at the Office Baltimore Steam Packet Company, Foot of Union Dock, or on Board of the Bay Steamers.

THE NEW AND BEAUTIFUL STEAMERS,

LOUISIANA and NORTH CAROLINA, of 1,120 Tons Burthen Each,

Replete with EVERY COMFORT and CONVENIENCE, has been added to the line.

The Line being now Composed of the Splendid Steamers

LOUISIANA, Capt. George W. Russell, and NORTH CAROLINA, Capt. James Cannon,

Having Unsurpassed STATE ROOMS and BERTH Accommodations.

The NORFOLK or BAY LINE STEAMERS will leave the

Company's Wharf, UNION DOCK, Foot of Concord Street,

DAILY, SUNDAYS EXCEPTED,

☞ AT 5 O'CLOCK, P. M. ☜

Or immediately after the arrival of the EXPRESS TRAIN, which leaves NEW YORK at 8 A. M. and PHILADELPHIA at 12½ P. M. The following is the SCHEDULE:

Leave NEW YORK at	8 o'clock,	A. M.	Leave PORTSMOUTH at	7½ o'clock,	A. M.
Leave PHILADELPHIA at	1 "	P. M.	Leave WELDON at	12 "	M.
Leave BALTIMORE at	5 "	P. M.	Leave WILMINGTON at	9½ "	P. M.

For AUGUSTA, CHARLESTON and the SOUTH, via the *Manchester Rail Road, now finished*

PASSENGERS FOR RICHMOND AND PETERSBURG,

Or any other POINTS on the JAMES RIVER, connect with the JAMES RIVER BOATS early next morning after leaving BALTIMORE.

PASSENGERS for EDENTON, PLYMOUTH, NEWBERN, WASHINGTON, WELDON, GOLDSBORO', BEAUFORT, WARSAW, RALEIGH and WILMINGTON, N. C. will find it a most pleasant, *direct*, and agreeable route.

Baltimore, Sept. 1858. **M N. FALLS, President.**

THE ADAMS EXPRESS COMPANY FOR THE SOUTH!

FORWARD

Via the BAY LINE to *Norfolk, Portsmouth, Weldon, Halifax, Goldsboro,' Rocky Mount, and Wilmington, N C and Charleston, S. C.*, and to all points on the *Sea-board and Roanoke and Weldon and Wilmington Rail Roads.* A SPECIAL MESSENGER in charge of the GREAT SOUTHERN EXPRESS, leaves BALTIMORE DAILY, Sundays excepted, at 5 P. M

ADAMS & CO. 164 Baltimore street, BALTIMORE.
Do. 116 Chestnut street, PHILADELPHIA.
Do. 59 Broadway, NEW YORK.

MURPHY & Co., *Printers and Stationers. Marble Building*, 183 *Baltimore street, Baltimore.*

Steamboats were linked with southern railroads

four cylinder, triple expansion vertical inverted steam engine driving a single bronze propeller. Steam is raised in four single and Scotch boilers, using coal fuel, though provision is made for oil burners and fuel oil storage tanks. Boilers and engine are enclosed in a steel well extending to the hurricane deck.

Dining halls are located on the main deck aft, seating 100 persons. All staterooms have hot and cold running water and a majority have shower or tub baths and toilets. Many have full-sized beds and there are several family communicating suites. On the gallery deck aft is a music room, glass enclosed.

THE ERICSSON LINE

Chesapeake early connected Baltimore and Philadelphia by way of Frenchtown on Elk River, and by stage to Newcastle on the Delaware River where transfer was made to *Delaware* for Philadelphia. The Frenchtown & Newcastle Railroad, held by many historians to be the first railroad in America, antedating the Baltimore & Ohio, succeeded the stages and quickened the journey. The Chesapeake & Delaware Canal, connecting Back Creek and Delaware City, on Delaware River, 13⅝ miles, with three locks, was completed October 17, 1829. The canal proprietors erected a tablet in testimony of their gratitude to Henry O. Gilpin, secretary and treasurer; Benjamin Wright, chief engineer; Daniel Livermore, resident engineer; and Caleb Newbold, Jr., superintendent; and to Thomas C. Cope, John H. Kam, Robert M. Lewis, Isaac C. Jones, Robert Wharton, Thomas Fassett, John Hemphill, Ambrose White and William Platt, directors.

The People's Line was organized in 1833 to compete with the Frenchtown route, barges being towed through the canal by horses and mules. The Maryland legislature incorporated the People's Steam Navigation Company, February 27, 1832, the enactment reading: "That, Joseph W. Patterson, Philip Lawrenceson, Jesse Hunt, James P. Eskin, John Calk, Thomas Morris, George W. Smith, Charles Alexander, Alex. S. Wilpin, Alonzo Wakeman, Joseph Pogue, John Gibbs, Jacob J. Cohen, Jr., W. Hughlett, a corporate body, styled the People's Steam Navigation Company, and by that name shall have perpetual succession, conducting a line, or lines of steamboats, vessels, stages or other carriages for conveyance of passengers, and transfer of merchandise and other things between the cities of Philadelphia and Baltimore.

"Capital stock of the said corporation shall be divided into shares

of $20 each. Shall not exceed 10,000 shares, including those already subscribed for. . . . Directors, or a majority of them shall have power to lay out landing places which shall be convenient to use on Chesapeake Bay, or rivers, or inlets in the Eastern shore to the line of the state of Delaware."

The line advertised in the Baltimore city directory of 1833:

"PEOPLE'S LINE FOR PHILADELPHIA VIA CHESAPEAKE & DELAWARE CANAL

"The President and Directors of the People's Steam Navigation Company have the pleasure to announce the commencement of a line for the conveyance of passengers between the cities of Baltimore and Philadelphia by the swift and splendid steamers *Kentucky,* Captain D. Robinson, and *Ohio,* Captain W. Wilden, Jr.

"*Kentucky* will leave the company's wharf, Light Street, every morning at 6 A.M. The Chesapeake & Delaware Canal, through which passengers will be conveyed in splendid and commodious barges, affords, particularly to the ladies, the most comfortable route to Delaware City, where they will take the *Ohio* and arrive in Philadelphia the same afternoon at an early hour. Passengers will be taken up and landed on any part of the canal, also at Newcastle, Marcus Hook, Chester and at the Lazaretto on the Delaware.

"The table and bar shall not be excelled by those of any line in the Union. This being the People's Line, no exertion will be spared on the part of the agent to entitle a full share of patronage of the traveling community. Passage to Philadelphia, $2. All baggage at risk of owners. The greatest attention, however, will be paid to its safety by the Captain and assistants on route. Passengers to Chesapeake City, going and returning, 50 cents. S. M. McClellan, Agent, 8 Light Street."

Anthony Groves, Jr., built the steamer *Ericsson* at Reanie & Neafie's shipyard, Philadelphia, in 1843, in which the screw propeller, invented by John Ericsson, was installed in a vessel specially designed to operate through the Chesapeake & Delaware Canal. This was the first line to use the screw propeller, which alone was

suitable for the narrow canal. *Ericsson* was 78 feet length and registered 80 tons, and was followed in 1844 by the propellers *Cumberland* and *Express.*

The Baltimore & Philadelphia Steamboat Company was incorporated in 1844 and took the name Ericsson Line, in compliment to John Ericsson, inventor. The first board of directors included: John S. Shriver, Henry L. Gaw, Anthony Groves, Jr., George Nealie and John A. Weart. The Ericsson Line has continued in all the years since, having built and owned these 30 steamers:

Name	Tons	Master
Robert F. Stockton	121	F. Layman
Express	106	A. Colmary
Nebraska	106	
Baltimore	105	A. G. Claypool
Catoctin	102	W. P. Dennis
Chesapeake	92	B. Thomas
Ericsson	78	
Cumberland	68	H. Green
A. Groves, Jr.		
John S. Shriver	293	W. P. Dennis
Farmer		
Richard Willing	351	A. Cundiff
Henry L. Gaw	493	T. S. Iler
W. Willdin, later *General Cadwalader*	383	William Riggin
Decatur		
Diamond State		Charles E. Fowler
Vineland, later *Alsenborn*..	508	Bowen
Elizabeth	245	W. W. Wood
Volutia	1,033	Louis P. Higgins
Bluefield	736	Louis P. Higgins
Anothony Groves, Jr.	605	Albert Willis
Ericsson	585	Noah Ireland
Penn	445	Alex. McNamee
Lord Baltimore	445	A. Willis
Penrose	63	R. Hastings
Export	294	
Reading	177	Knox
Bay State	140	W. Green
Carmania	321	A. Willis

The Ericsson Line in its 80 years' successful operation has met water competition, for the most part short-lived and unsuccessful. Thomas Clyde started an opposition service, called the People's Line, and in the '70's and '80's came the Union Line, in which Thomas Clyde was also interested, and when it failed the old company bought its boats. The line met severe competition from the railroads, first from the Philadelphia, Wilmington & Baltimore, and then from the Pennsylvania and Baltimore & Ohio roads, but through efficient management survived, owning its terminals and floating property, without funded debt.

Steamboat business between Philadelphia and Baltimore has been handicapped by the canal limitations, but anticipating the completion of the new sea-level canal, 200 feet wide and 35 feet deep, the Ericsson Line is maturing plans (1924) for new boats to make round trips daily between the two cities to carry 3,000 passengers, and large night boats for passengers and freight.

Present directors of the Baltimore & Philadelphia Steamboat Company are: F. S. Groves, Henry Brengle and Len T. Beale, and the officers: John Cadwalader, president; Thomas F. Cadwalader, attorney; F. S. Groves, general agent and manager; William H. Droody, secretary and treasurer.

THE CHESAPEAKE LINE

Thomas Clyde and Reuben Foster, names famous in Baltimore and Philadelphia steamboat history through their positions in water transportation and for steamboats named for them, were president and general manager respectively of the Baltimore, Chesapeake & Richmond Steamboat Company when the Chesapeake Line was incorporated by the Maryland legislature in 1874 to connect Baltimore and West Point, Va.

Previously the Richmond, York River & Chesapeake Railroad Company had operated *Havana, Louise* and *Empire* between Baltimore and West Point. The new company began service with *Sue,* Captain William C. Geohegan, and *Louise,* Captain A. C. Nickle, side-wheelers, and the same year purchased *Empire* and *E. C. Biddle.* At various times *E. C. Biddle* operated between Baltimore and Petersburg, continuing until 1881 when it was sold. The company's steamers ran on the Potomac, at times, *Sue* being one of them, and at other periods a steamer was run to North Carolina points.

The company invaded the Norfolk field in 1876, organizing the

People's Line to serve truck farmers, but the Baltimore Steam Packet Company objected to Norfolk competition and in 1877 an agreement was reached and the People's Line steamers withdrawn. From 1877 to 1889 the Baltimore, Chesapeake & Richmond Steam-

The wealth and fashion of the times delighted in steamboat travel

boat Company confined its operations to the York River and Potomac River lines, abandoning the Potomac River service in 1889.

Danville, 1,297 tons, was built for the company in 1882 by William E. Woodall & Company, Baltimore, a wooden propeller, 208.2 feet length, 34.9 feet beam, which continued on the route 25 years,

and then in 1911 became *Brockton,* a spare boat of the Colonial Line, New York to Providence. *Baltimore,* built for the line by William E. Woodall & Company, was a wooden propeller 222 feet length, 35 feet beam and was sold with *Danville* to the Colonial Line in 1911.

With increasing freight and passenger business the line built *Charlotte* in 1889, an iron steamer, 1,746 tons, 228.9 feet length, 38 feet beam, 22 feet depth of hold, 1,453 horse power, built by Næfie & Levy Ship & Engine Building Company, Philadelphia, which later became *Dorothy Bradford* when it ran between Boston and Cape Cod.

The company's Baltimore terminal, Pier 2, Light Street, was abandoned in 1890 when larger terminal, Piers 18 and 19, Light and Lee Streets, were taken over. President Washington Booth died in 1892, succeeded by Reuben Foster.

When the Southern Railroad transferred its through terminals from West Point to Norfolk (Pinner's Point) in 1896, the Baltimore, Chesapeake & Richmond Steamboat Company began freight and passenger service to Norfolk and Fortress Monroe, maintaining freight and passenger rates with the Baltimore Steam Packet Company. *Charlotte* and *Atlanta,* the latter steamer leased from H. C. Ansley, began this service in July, 1898. Following the first trip the Baltimore Steam Packet Company protested the stops at Norfolk and Fortress Monroe, claiming violation of the agreement of 1877. The Baltimore, Chesapeake & Richmond Steamboat Company contended the agreement had expired by limitation in 1881 and continued to operate its vessels.

The Baltimore Steam Packet Company had long enjoyed monopoly of the Norfolk trade and when its field was invaded by the Chesapeake Line the hottest kind of steamboat competition began. To offset the Chesapeake Line's entrance to Norfolk, the Old Bay Line opened an all-water line to Richmond, via the James River, competing with the water and rail route of the York River line. Passenger fares fell to $1 and freight rates were cut. The James River all-water service continued 18 months and was then withdrawn.

Suit for $150,000 damages was brought against the Baltimore, Chesapeake & Richmond Steamboat Company, September, 1896, by the Baltimore Steam Packet Company for violation of the 1877 agreement. The suit was withdrawn when the two companies got together in a new agreement of 1897 when passenger and freight rates were restored to the tariffs in effect before the 1896 rate war.

Atlanta, 2,094 tons, 225.3 feet length, 42.1 feet beam, 14.2 feet

depth of hold, 2,351 horse power, was built for the line in 1897 at Philadelphia.

The Baltimore, Chesapeake & Richmond Steamboat Company was succeeded by the Chesapeake Steamship Company in 1900 which took over the property and franchises of the old company.

Augusta was built at Philadelphia, 1900, for the Norfolk trade, 2,372 tons, 245 feet length, 46 feet beam, 15.9 feet depth of hold and 3,294 horse power. *Augusta* introduced large staterooms, double brass beds, and was beautifully paneled in mahogany and continued in service until sold to A. W. Gieske in 1916. *Columbia* was built for the Norfolk route by the New York Shipbuilding Company, Camden, 2,584 tons, 269 feet length, 46 feet beam, 14.8 feet depth of hold and 3,000 horse power. On the first trip *Columbia* carried Governor Warfield of Maryland, his staff and the Maryland delegation to the Jamestown Exposition in April, 1907.

During the Jamestown Exposition *Atlanta* was operated as a day boat between Baltimore and Norfolk. *Atlanta* was sold to the Cuban Improvement Company in 1915.

The Chesapeake Line continued the traditions of its founder, Thomas Clyde, who also operated steamboats on the Delaware River, until 1909 when President Reuben Foster resigned after 41 years' service with the line and its predecessors, succeeded by Key Compton, formerly of the Baltimore Steam Packet Company.

Mr. Compton realized that *Columbia, Augusta,* and *Atlanta,* while comfortable steamboats, were not of uniform arrangement and construction, and orders were placed with Maryland Steel Company, Sparrows Point, for two sister ships. The double launching occurred in the spring of 1911; the new steamers were named *City of Norfolk,* Captain John Thomas, and *City of Baltimore,* Captain Edward James, steel vessels, 2,379 tons, 297.5 feet length, 46.5 feet beam, 16.2 feet depth of hold and 2,750 horse power.

These steamers introduced shower and tub baths, wireless telegraphy, intercommunicating telephones and shore 'phone connections while docked.

For the York River Line the company built sister ships, *City of Annapolis,* Captain R. L. Moon, and *City of Richmond,* Captain R. J. Short, at Maryland Steel Company, in 1913; the new steamers being 1,923 tons, 261.6 feet length, 53.1 feet beam, 14.1 feet depth of hold and 2,500 horse power.

The Chesapeake fleet consists of *City of Baltimore, City of Norfolk, City of Annapolis, City of Richmond* and *City of Atlanta,* ex *Columbia.*

MERCHANTS' AND MINERS'

The Merchants' & Miners' Transportation Company was incorporated by the Maryland General Assembly, April 24, 1852, for a term of 25 years by W. S. Woodside, Hugh Jenkins, Benjamin Deford, John H. Ehlen and Edward Williams with $100,000 capital and privilege of increase to $300,000. The original purpose was given up and the charter transferred to others promoting a steamship service connecting Baltimore and Boston. Capital was timid in 1852 and also in the next year when a committee visited Boston seeking subscriptions, but in 1854 Boston subscribed $80,000, the largest subscription being from J. W. Pottle & Company who became Boston agents of the line. Baltimore raised $120,000 and the company began with $200,000 capital.

The line started with *Joseph Whitney* and *William Jenkins,* 1,000-ton wooden side-wheel steamers. *William Jenkins* was 210 feet length, 31 feet beam, built at Baltimore by John A. Robb, with 350 horse power engine built by Murray & Hazelhurst. *Joseph Whitney* was built by John Englis at Brooklyn, cost $109,000 and was 215 feet length and 33 feet beam. The engine of 360 horse power was built by Guion Boardman & Company.

Joseph Whitney made the first trip in the line, leaving Boston 8 P.M., December 28, 1854, Captain Solomon Howes commanding, arriving in Baltimore January 1, 1855, occupying 80 hours for the trip.

The first directors were elected March 31, 1855: Thomas C. Jenkins, Solomon R. Spaulding, George J. Appold, Benjamin Deford and Jonathan W. Pottle. Thomas C. Jenkins was elected president; Solomon R. Spaulding, secretary and treasurer at Boston; William Kennedy and A. Fuller Crane, treasurer and secretary respectively at Baltimore. Mr. Pottle resigned as director in 1857, succeeded by Joseph Whitney of Boston.

The company met with no fires or marine disasters in early years and was modestly prosperous. It increased its capital by assessment to $300,000, and in 1859 commissioned Harlan & Hollingsworth Company, Wilmington, to build *S. R. Spaulding* and *Benjamin Deford,* iron side-wheelers, 1,200 tons, 220 feet length, 33 feet beam and 500 horse power at cost of $140,000 each.

Business did not warrant four boats in service and freight was solicited for Boston, Savannah and Baltimore. The directors thought cargoes might be obtained from interior New England and in 1859 instituted service between Providence and Baltimore, main-

tained at a loss and shortly abandoned after important outlay for wharf leases and freight sheds in Providence.

During the excitement and agitation which preceded the Civil War, *William Jenkins* was set afire and burned at its wharf in Savannah, proving a total loss. With the breaking out of the war *Joseph Whitney* was sold to the Government for $75,000 and its name changed to *McClellan*. The company partitioned the proceeds of the sale and reduced its capital, but in 1864 assessed stockholders $25 a share, increasing the capital to $296,825. Some stockholders

Benjamin Deford, first of the Merchants' & Miners' fleet

not responding left the capital short by $3,175 and made 127 shares "short stock" of $75 par value.

The need for transports in the Civil War was so great that *S. R. Spaulding* and *Benjamin Deford* were seized by the Government, against the directors' remonstrances and protests, and while the charters were profitable the company lost position as a carrier at a time when enormous freight was moving. *S. R. Spaulding* and *Benjamin Deford* were sold following the war to Starbach & Company for $303,500 and the two steamers ran on the New York-Savannah Line in 1869, then known as *San Jacinto* and *San Salvador,* and later became the first steamers of the present Ocean Steamship Company of Savannah.

The company immediately set to replacing its drafted fleet and

George Appold, 1,370 tons, a wooden propeller, was built by John Lynn, Philadelphia, in 1864, being 232 feet length, 38 feet beam, and cost $177,000. *George Appold* was wrecked on Montauk Point, February 27, 1889. *Fung Shuey,* built in 1864 by E. S. Whitlock, Brooklyn, was purchased but never operated, being immediately sold. *Fung Shuey* was a wooden propeller, 987 tons, 195.5 feet length, 33 feet beam and 24 feet depth of hold. *William Kennedy,* then building by William Goodspeed, East Haddam, Conn., was purchased before completion for $186,000, a wooden propeller of 974 tons, 195 feet length, 33 feet beam and 275 horse power. *William Kennedy* foundered off Point Lookout, February 3, 1885.

Benjamin Deford resigned as director in 1867, succeeded by Decatur H. Miller of Baltimore, and the January, 1868, session of Maryland legislature authorized increase of capital to $600,000. The iron screw steamer *William Lawrence* was built for the company February, 1869, by the Atlantic Works, Boston, at a cost of $185,000, being 226 feet length, 35 feet beam and the first ship owned by the company to have a surface condenser. *William Lawrence* foundered off Port Royal Shoals, February 11, 1899. *Blackstone,* 1,147 tons, a wooden propeller, built six years before by G. Greenman & Company, Mystic Bridge, Conn., was purchased in 1869 for $70,000. *Blackstone* was 179 feet length and 34.6 feet beam and served until 1890 when it was converted to a coal barge, and afterwards sunk.

William Crane, a new iron steamer, was built by Harlan & Hollingsworth Company at $251,000 cost and launched June 20, 1871, being 1,416 tons, 240 feet length, 37.8 feet beam and 24 feet depth of hold. New triple expansion engines and boilers were installed in 1896 by James Clark Company, Baltimore, at a cost of $75,000 and the name changed to *Itasca. Johns Hopkins,* built in 1873, Wilmington, at $265,000 cost, was 243.3 feet length and 38 feet beam. *Johns Hopkins* caught fire, lying at Baltimore & Ohio Railroad pier, Locust Point, Baltimore, May 20, 1889, and was towed into the stream and sank off Fort McHenry Flats, the wreck being sold for $10,500.

Providence again became a port for the Merchants' & Miners', January 3, 1873, when Baltimore, Norfolk and Providence service was established, Elisha Hutchinson Rockwell being Providence agent of the new line. The company acquired 600 shares and control of the Boston Wharf & Warehouse Company, Norfolk, R. H. Chamberlaine, president, that year for $100,000. It purchased the re-

maining 400 shares for $56,000 in 1880. President Solon R. Spaulding died August 31, 1874, succeeded by George J. Appold, and Thomas B. Williams of Boston became a director. The company increased its capital from $600,000 to $1,000,000 in 1876, and the charter was extended 25 years by the Maryland legislature. A. Fuller Crane resigned as director in 1876, succeeded by Robert Garrett of Baltimore.

The Baltimore & Savannah Steamship Company was purchased January 3, 1876, for $35,000, including the steamers *America* and *Saragossa*. *America* was built by S. Gildersleeve Company, Portland, Conn., in 1863, and was carried on the Merchants' & Miners' books at $17,500, a wooden steamer, 782 tons, 166 feet length, 31 feet beam and 17 feet depth of hold. *America* was turned to Harlan and Hollingsworth Company for $20,000 in part payment for *Decatur H. Miller* after three years' service. *Saragossa,* built in Philadelphia in 1863, was 211.9 feet length, 31.5 feet beam and 18.2 feet depth of hold. *Saragossa* served until 1886 when it was sold for $2,000 in the fruit trade and was lost the same year off the South American coast.

Decatur H. Miller, a new iron vessel, was built in 1879 by Harlan & Hollingsworth Company at a cost of $228,000, being 1,100 tons, 265 feet length, 38.6 feet beam and 25 feet depth of hold. *Decatur H. Miller* was lengthened to 298 feet in 1903 by the Maryland Steel Company, Sparrows Point, at a cost of $125,000 and the name changed to *Merrimac.*

Thomas B. Williams resigned as director March 19, 1879, succeeded by Henry C. Smith of Baltimore, and the following year service was established between New York and Baltimore. The company leased Pier 45, North River, New York, at $16,000 annually. This service was instituted to protect freight rates between New York and Baltimore against attacks by railroads, and when the purpose had been accomplished the New York service was discontinued March, 1883.

Alleghany was built by William Cramp & Sons, Philadelphia, in 1881 for $246,000, being 2,014 tons, 1,500 horse power, 226 feet length, 38.5 feet beam and 27 feet depth of hold. *Alleghany* burned to the water's edge at Savannah, July 17, 1907, and abandoned to the underwriters, the company accepting $150,000. The hull was rebuilt into a three-deck freight boat by the Erie Basin & Dry Docks Company, Brooklyn, for $100,000. *Berkshire* was built by the Cramps, 1881, of the same dimensions.

When cotton shipments fell off in 1882 *Berkshire* was chartered

for a 60 days' voyage to Rio de Janeiro, sailing from Baltimore February 9, 1882, the charter realizing $20,000. Charleston service was inaugurated December, 1882, Cohen & Wells being agents at Charleston, but the line was discontinued in May, 1885.

Chatham, built in 1884 by the American Shipbuilding Company, Philadelphia, cost $304,000, an iron vessel 2,728 tons, 1,900 horse power, 285 feet length, 40 feet beam and 34 feet depth of hold. *Chatham's* purchase was financed by sale of ten year 5 per cent bonds secured by mortgage on Norfolk wharf property in favor of Mercantile Trust & Safe Deposit Company, Baltimore, Trustee, and the period was later extended to 20 years, and the interest rate reduced to 4 per cent.

Michael Jenkins became a director March 17, 1886, succeeding Henry C. Smith, deceased, and Robert Garrett resigned in 1888, succeeded by Henry James. Henry A. Whitney, vice president, died in 1889 and Ellerton P. Whitney of Boston, his son, was elected to succeed him on the board in 1891. The company increased its capital to $1,200,000 March 17, 1891. The death of Henry James occurred July 30, 1897, and Nathaniel W. James was elected a director October 13, 1897. George J. Appold, president and treasurer, died November 23, 1897; Michael Jenkins was elected president December 17, 1897, and William Kennedy Cromwell was elected a director.

Dorchester, an iron steamer, 2,537 tons, 2,000 horse power, 282 feet length, 40 feet beam and 33.5 feet depth of hold, the first ship of the line to have triple expansion engines, was built by Harlan & Hollingsworth Company in 1889 and cost $276,000. *Essex* was built at the same time by William Cramp & Sons, same dimensions, for $302,000. *Essex* burned and sank at Savannah Wharf, Baltimore, June 13, 1906, and was rebuilt and lengthened to 318 feet by Newport News Shipbuilding & Dry Dock Company at $157,000 cost.

Long Dock, Baltimore, was purchased in 1891 for $100,000, and Savannah Wharf, Baltimore, in 1895, for $250,000, including improvements. Additional property was purchased in 1904 for $17,066, and Baltimore wharf property, bounded by Block and Jones Falls Streets, added in 1906 for $161,500, subject to ground rent of $1,125. Pier 3, Baltimore, was leased from the City of Baltimore for 50 years at $40,000 per annum from January 1, 1908, the city reserving the right to revise the rental every ten years. A superstructure was built by the company at cost of $150,000 and possession of the new pier was taken April 15, 1908.

Fairfax, built by Harlan & Hollingsworth Company 1891; *Gloucester,* built 1893 by Maryland Steel Company; *Howard,* built 1895, and *Juniata,* 1897, by Harlan & Hollingsworth Company, were vessels of about the same dimensions, 2,550 tons, 295 feet length, 42 feet beam and 34 feet depth of hold. *Fairfax* cost $386,000; *Gloucester,* $343,000; *Howard,* $317,000, and *Juniata,* $325,000. *Fairfax* stranded on Sow and Pigs Shoal November 27, 1898, a total loss. Captain John Johnson was in command. About 350 bales of cotton were removed, but continued storms prevented salvaging. The book value of the ship was $305,000, uninsured.

Howard was lengthened 40 feet and new boilers installed by J. N. Robins Company, Brooklyn, in 1909, at cost of $130,000. *Juniata* was similarly lengthened and had new boilers installed at Newport News in 1907 at $132,325 cost.

Relations between the United States and Spain became acute about March 1, 1898, and, following an interview with Lieutenant-Commander J. D. Kelly, Army Building, New York, March 16th, the company prepared detailed data of its fleet, which then included *Alleghany, Berkshire, Chatham, Dorchester, Essex, Fairfax, Gloucester, Howard, Itasca, Juniata, William Lawrence* and *D. H. Miller.* The situation became more tense and the company availed of war risk insurance, the shipping community becoming agitated, but its fears were allayed when the company marked its bills of lading:

"War risk covered in accordance with policies held by Merchants' & Miners' Transportation Company."

Commodore Melville, Chief Engineer of the Navy, negotiated to buy *Juniata* April 20th for $450,000 as a repair ship for the fleet, but *Chatham,* then undergoing repairs at the Columbian Iron Works, Baltimore, was taken instead, passing to the Government for $350,000 and became *Vulcan.* Afterwards *Vulcan* was repurchased by the company for $175,750, when the name *Chatham* was resumed. *Chatham* stranded at the mouth of St. John's River, near Jacksonville, January 14, 1910, a total loss.

The Army's need for transports brought negotiations by Colonel Charles Bird, in charge of transportation of the Quartermaster General's office, who proposed taking over the whole Merchants' & Miners' fleet. The company held it to be unfair to leave its terminals open to destructive competition and the suggestion was made to prorate the Army's transport requirements amongst all coast lines.

Alleghany, Berkshire, and *D. H. Miller* were offered to the Government at $750 each per day.

Various coast lines sought to charter a number of ships at advantageous price and a strong combination proposed that the Government assume marine risk in addition to war risk. The Merchants' & Miners' closed charters with the Government at $600 a day per ship for the first 30 days and $550 per day thereafter, and accepted the marine risk.

Alleghany, Captain Z. Nickerson, Jr., was intercepted at Baltimore and dispatched to Port Tampa, Florida, April 29th; *Berkshire,* Captain J. H. Dizer, was sent from Norfolk, and *D. H. Miller,* intercepted at sea by the tug *Apollo* off the Virginia Capes, hurriedly unloaded and went to Port Tampa under command of Captain C. C. Peters.

Captains were furnished with letters of instruction, and copies of charters, and a representative sent to Port Tampa to guard the company's interest. The original charters ran until June 30th and were then extended from day to day. Following cessation of hostilities *D. H. Miller* returned to the line September 3rd and surveyed September 7th. *Alleghany* and *Berkshire* were turned back September 12th. The company received $238,752.31 charter revenue and the total expense amounted to $45,509.70, a net gain of $189,-242.61. The Government wanted *Juniata* as a hospital ship, but the company's business required the ship.

Contracts were awarded Harlan & Hollingsworth Company for building *Kershaw* at $360,000 and *Nantucket,* $343,000, which came out in 1899, steel vessels 2,599 tons, 3,000 horse power, 298 feet length, 42 feet beam and 34 feet depth of hold. *Nantucket,* Captain B. F. Hatch, burned and sank at Locust Point, Baltimore, September 2, 1912, and was rebuilt at $63,000 cost. While en route from Boston to Norfolk, under command of Captain O. Berry, *Nantucket* collided with the Old Dominion liner *Monroe* in fog, near Hogg Island, off the Virginia coast, January 30, 1914. *Monroe* sank in 20 minutes and 41 lives were lost and 99 rescued. *Nantucket,* badly damaged, participated in rescue and proceeded to Norfolk and was then libeled for $1,000,000. The ship was held by a Trustee of the United States District Court and was sold to the Company at Marshal's sale for $85,000.

State of Texas was purchased from the Mallory Steamship Company December 1, 1898, for $55,000, having been built by J. Roach & Son, Chester, Pa., in 1874, an iron vessel 1,736 tons, 243 feet length, 36 feet beam and 20.7 feet depth of hold. *State of Texas*

was sold to the Seaboard Transportation Company March 27, 1905, for $13,100. *New Orleans* was purchased from the Cromwell Line November 15, 1899, for $60,000, an iron steamer 1,564 tons, 249 feet length, 33 feet beam and 24 feet depth of hold, and $9,000 was spent in repairs.

Service between Philadelphia and Savannah was begun October 1, 1900, with *Alleghany* and *Berkshire*. *Hudson* was purchased from the Cromwell Steamship Company December 17, 1900, for $90,000 and repairs cost $5,000. *Hudson* was built by Pusey & Jones, Wilmington, in 1874, an iron steamer 1,872 tons, 1,200 horse power, 301 feet length, 34 feet beam and 23 feet depth of hold.

While undergoing repairs at William Skinner & Son Shipbuilding & Dry Dock Company, Baltimore, from some unknown cause *Hudson* capsized on the railway and sank, doing $13,769 damage to the ship, $7,000 damage to railway, and Merritt & Chapman Wrecking Company's bill for righting ship was $9,500, total charges of $30,269. The underwriters paid $16,769 and William Skinner & Son assumed $13,500. New boilers, engine repairs and new deck by Maryland Steel Company in 1903 cost $85,000, when *Hudson's* name was changed to *Frederick*.

Rawlins was purchased from the Government July 20, 1901, for $200,000. *Rawlins* had previously been *Resolute* and was originally the Old Dominion liner *Yorktown,* built in 1894 by J. Roach & Son, Chester, Pa. *Rawlins* now became *Powhatan* and $24,000 spent in repairs. *Powhatan* was 2,898 tons, 3,000 horse power, 321 feet length, 40 feet beam and 34 feet depth of hold.

The Merchants' & Miners' Transportation Company's Civil War claim against the Government arising from the charter of *Benjamin Deford* and *S. R. Spaulding* was settled in June, 1902, for $212,396.31. One half this amount was paid by the company to Colonel George W. F. Vernon, who had prosecuted the claim since 1873, paying his own expenses.

City of Macon was purchased from the Savannah Line August 8, 1902, for $115,000, and $18,000 spent in repairs. *City of Macon* was built in 1877 by John Roach & Son, an iron steamer 2,092 tons, 1,800 horse power, 272 feet length, 38.7 feet beam and 32 feet depth of hold. The name was changed to *Lexington,* and August 28, 1911, *Lexington* stranded on N. Edisto Island, S. C., being floated by Merritt & Chapman, and was repaired at $39,000 cost, covered by insurance.

Contract was awarded to the New York Shipbuilding Company, Camden, N. J., May 29, 1903, for the building of *Ontario,* $409,000

cost, which came out in 1904, a steel vessel 3,082 tons, 3,500 horse power, 315 feet length, 42 feet beam and 34 feet depth of hold. *Ontario,* Captain William J. Bond, burned and sank off Montauk Point April 8, 1912, but was recovered and rebuilt by Morse Dry Dock & Repair Company, Brooklyn, for $179,950, and with the cost of wrecking and new furnishing, total $234,000 for ship and cargo, $130,000 covered by insurance.

The company increased its capital stock from $1,600,000 to $2,000,000 June 8, 1903, and issued new stock in proportion of 25 per cent of holdings to stockholders at $125 a share. Control of the Merchants' Steam Lighter Company, Boston, was purchased in August, 170 shares, par value $100 and 5 per cent premium, $17,850, the property including seven steam lighters.

The great Baltimore fire, February 7, 1904, destroyed the company's property to the amount of $69,300, of which $30,000 was recovered in insurance. The office building in Light and German Streets was erected in 1904 at cost of $85,728.99 for land and $83,000 building. The company sold its dock property to the Baltimore Burnt District Commission July 20, 1904, for $470,309.34 and paid rental on the property, pending building of new city piers, of $9,000 for one year and $18,000 for the second year, ending July 15, 1906.

The Merchants' & Miners' Transportation Company, anticipating its plan to run to Jacksonville, Fla., purchased the Henry Clark property, Jacksonville, September 19, 1905, for $180,000. It sold a right of way through the property to the Seaboard Air Line in 1907 for $24,700 and other small portions amounting to $62,700 total. The property was improved with wharves in March, 1909, at an expense of $71,000, and in June the new Baltimore, Savannah and Jacksonville line was established, *Merrimac* making the first trip June 16th. The Philadelphia-Savannah Line was extended to Jacksonville in June, 1911. Improvements in the Jacksonville terminal were made in 1911, amounting to $84,500. The property, exclusive of improvements, was appraised at $550,000 in April, 1912.

The new port of call required another steamer, and *Chattahoochee* was purchased from the Ocean Steamship Company for $150,000 and $35,000 spent installing new ports and other repairs. *Chattahoochee* was built in 1882 by John Roach & Son, an iron-hulled ship, 2,676 tons, 2,400 horse power, 311.7 feet length, 40.7 feet beam and 24.1 feet depth of hold. The name was changed to *Quantico.*

Juniata, Captain Z. Nickerson, Jr., bound from Boston to Balti-

more with 50 passengers, collided with the five-masted schooner *Harwood Palmer* at 9:49 P.M. September 20, 1905, off Cape Cod in a thick fog. Both steamer and schooner sustained serious damage and several of *Juniata's* passengers were injured. *Juniata* returned to Boston, where temporary repairs were made, and then proceeded to Baltimore, where damage to hull and cargo was surveyed at $40,000, covered by insurance. *Juniata* was libeled in Boston by the Palmer interests, whose claim was $102,500. Being tried in the U. S. District Court in Boston, decree was entered in favor of *Harwood Palmer, Juniata* being held at fault.

The case was appealed, and when retried damage sustained by *Harwood Palmer* was fixed at $14,500. Exception was taken by the schooner's attorneys and appeal entered. While preparations were making for retrial change occurred in the Palmer fleet management, and in view of high litigation costs the new owners compromised for $7,000. Other legal expenses amounted to $21,400, of which $4,000 was assumed by the company.

Chatham stranded on the outer point of the North jetty, mouth of St. John's River 6 A.M. January 14, 1910, the 47 passengers being transferred from lifeboats to the pilot boat *Meta* and Clyde liner *Mohawk*. The ship could not be saved and was abandoned to the underwriters. *Chatham* stood on the books at $250,000 value when it foundered and was insured for $150,000.

Suwanee and *Somerset* were built for the line in 1910 by the New York Shipbuilding Company, Camden, at cost $910,000 for the two ships, financed by the sale of 5 per cent equipment bonds to amount of $700,000, maturing $75,000 each in two, two and a half, three and three and a half years and $100,000 each in four, four and a half, five and five and a half years after April 1, 1910, secured by mortgage. *Suwanee* was launched February 24, 1911, and *Somerset* March 30, 1911, steel vessels, 3,648 tons, 3,000 horse power, 333 feet length and 46 feet beam. Both ships were placed in Baltimore, Savannah and Jacksonville service.

The Maryland legislature in January, 1906, granted authority to increase capital from $2,000,000 to $6,000,000. Michael Jenkins resigned as president June 27, 1906. Joseph C. Whitney was elected president October 18, 1906. The company availed of its right to increase capital April 29, 1907, when $5,000,000 stock was issued. The number of directors was increased from five to eleven January, 1908, and the Maryland legislature made the company's charter perpetual.

DEAL WITH THE NEW HAVEN RAILROAD

Having set the stage with increased capital an agreement was entered with the New England Navigation Company (the New York, New Haven & Hartford Railroad Company's subsidiary) for taking over the Boston and Philadelphia Steamship Company, known as the Winsor Line, operating between Philadelphia and Boston, and from Philadelphia, Fall River and Providence.

The Winsor Line, first known as the Empire Line, later Keystone Line, was established in 1866 to operate freighters between Providence and Philadelphia. Henry Winsor of Philadelphia purchased the business in 1872, organizing as a Massachusetts corporation, the Boston & Philadelphia Steamship Company, with Providence as shipping port and a rail connection to Boston. Henry Winsor was president, Edward Whitney, Boston, treasurer, and James Hill, New York, secretary. The Winsor Line operated in 1886 *Saxon,* Captain Samuel G. Sherman, 1,500 tons; *Catherine Whiting,* Captain John H. Briggs, 800 tons; *Aries,* Captain W. Loveland, 1,200 tons, and *Tonawanda,* 800 tons, spare boat, leaving each terminal Wednesdays and Saturdays.

An exchange of 25,000 shares of Merchants' & Miners' Transportation Company stock was made for 20,000 shares of New York, New Haven & Hartford Railroad Company's stock; Merchants' & Miners' stockholders receiving one share of New Haven for each share of Merchants' & Miners' held by them and one-fourth of a share of new Merchants' & Miners' Transportation Company stock for each share of old stock held by them.

Merchants' & Miners' Transportation Company issued $3,250,000 four per cent 25 year debenture bonds in payment of the above property and received the steamers:

	Tons	Length Feet	Beam Feet	Depth Feet	Built	Builders
Aries	832	210	27.6	15.9	1862	Sunderland, England
Cretan ...	2,351	287	40.5	24.4	1882	J. Roach & Son
Persian ..	2,677	311	40.7	24.1	1882	" " " "
Parthian .	2,070	289	38	26	1887	Harlan & Hollingsworth
Indian ...	2,110	289.5	38	26	1890	" " "
Grecian ..	2,872	290	42	36	1900	" " "
Tuscan ..	2,415	290	42	28.3	1907	Maryland Steel Company

Piers No. 18 and 20, South Delaware Avenue, Philadelphia, and Fall River pier were included in Winsor Line property taken over.

Charles S. Mellen, then president of the New Haven Railroad; A. Heaton Robertson and James S. Hemingway, representing the railroad, were elected to the Merchants' & Miners' board. Edwin Milner of Moosup, Ct., succeeded Charles S. Mellen as director. Michael Jenkins became Chairman of the Board and Benjamin Campbell, a railroad officer, succeeded Nathaniel W. James, Baltimore, as director October 24, 1911.

To fund its floating indebtedness the Company issued, as of December 1, 1913, Preferred Debenture Notes, 6 per cent, to amount of $1,200,000 and sold the issue to the Mercantile Trust & Safe Deposit Company, Baltimore, at $96 and interest. At the same time an agreement was entered into between the Merchants' & Miners' Transportation Company, the New England Navigation Company and the Mercantile Trust & Safe Deposit Company, Trustee, whereby the Navigation Company deposited with the Trustee Merchants' & Miners' Transportation Company's $3,250,000 four per cent 25 year Debenture Bonds (owned by the Navigation Company) subordinating the same to the new Preferred Debenture Notes.

When the New Haven interests were about to purchase the minority holdings of Merchants' & Miners', the Inter-State Commerce Commission ruled that railroads must give up steamship extensions. The New Haven management had no choice except to dump Merchants' & Miners' stock on the market and it sold its holdings of Merchants' & Miners' Transportation stocks and bonds to the Mercantile Trust & Safe Deposit Company, Baltimore, April, 1914, at a price said to be $2,050,000.

The sale considered purchase by the New Haven of Fiske Wharf, Boston, for $370,000, the amount of the mortgage indebtedness against the property, and for which the steamship company had paid $500,000 May 2, 1907, with $25,000 spent in betterments. Fiske Wharf was leased back to the Merchants' & Miners' Transportation Company for $22,000 annually and the company also leased from the railroad Pier 2, South Boston, for 15 years at $40,000 net annual rent and Constitution and Battery Wharves, Boston, were abandoned.

A majority of stockholders agreed to the dissolution of the voting trust and F. F. Brewster, A. H. Robertson and J. S. Hemingway resigned as directors April 24, 1914, and W. B. Brooks, R. B. Keyser and C. A. Webb of Baltimore were elected. The Philadelphia, Fall River and Providence service was withdrawn June 15, 1914. President J. C. Whitney resigned June 30th and J. H. Jenkins of Stamford, Conn., former president of the Bridgeport Steamboat Com-

pany and vice president of the New England Navigation Company, succeeded to the presidency.

The Merchants' & Miners' Transportation Company, developed through many years, and for which the New Haven had paid a top price, was passed back to the Baltimore former owners on a gold platter, while it was reported the line earned profits in the next few years equal to the price paid to the New Haven. The railroad's enormous loss, in capital shrinkage and business, occasioned by the ordered sale of Merchants' & Miners', added to the difficulties of the New Haven road.

DIVIDEND RECORD

Merchants' & Miners' first dividend, 20 per cent, was paid January 1, 1856, and during Civil War years dividends totaled 314 1/3 per cent. Cash dividends paid to July, 1914, amounted to 780 5/6 per cent, in addition to a stock dividend of 150 per cent. Dividends were passed in July, 1885, due to losses met by the collision of *Decatur H. Miller* and *William Lawrence,* and dividends were passed July, 1913, January and July, 1914, due to the poor showing then made.

Alleghany, Captain I. P. Freeman, bound from Savannah to Baltimore, July 17, 1907, when off Tybee, burned to the water's edge, landing all passengers safely. The ship was abandoned to the underwriters, and $150,000 insurance received. The company purchased the hull for $30,000, and J. N. Robins Company, Brooklyn, rebuilt the ship as a three-deck freighter for $100,000.

Kershaw, commanded by Captain J. Johnson, with 41 passengers, bound to Norfolk from Boston, went ashore in fog 12:40 A.M., July 9, 1911, on Shovelful Shoal Rip, Massachusetts coast. *Kershaw* floated the next day and proceeded to Vineyard Haven, having suffered small damage.

Lexington, commanded by Captain E. N. Connelly, from Savannah to Philadelphia, met heavy gales and went aground on North Edisto Island, S. C., August 28, 1911, being floated and towed to Philadelphia for repairs. Salvage amounted to $25,000 and repairs $37,000, covered by insurance.

Gloucester collided with and sank the four-masted schooner *Herbert D. Maxwell* off Thomas Point, Chesapeake Bay, March 16, 1912. Four members of the *Maxwell's* crew were drowned.

Creton, Captain J. B. Wood, collided with the Clyde liner *Iroquois* off Cape Lookout April 21, 1912, but the damage was

small. *Berkshire,* Captain G. J. Hart, caught fire and sank off Cape Lookout when 21 passengers were taken off, and ship recovered. Repairs cost $18,000. *Henry Williams* was chartered from Baltimore & Carolina Steamship Company for six months, from November 1, 1912, at $6,000 a month. *Persian,* while undergoing repairs, Kensington Shipyard Company, Philadelphia, caught fire from unknown cause and was damaged to amount of $44,000, covered by insurance.

A splendid list of shipmasters served the Merchants' & Miners', some for more than 30 years, beginning with W. A. Hallett and Solomon Howes, who first brought on *Joseph Whitney* and *William Jenkins* in 1854 and who were not retired until 1886. Other masters in the line were: George H. Hallett, Winslow Loveland, Joshua Atkins, F. M. Howes, Josiah C. Parker, H. D. Foster, J. S. March, G. W. Billups, T. A. Hooper, John C. Taylor, D. P. W. Parker, E. R. Warren, E. E. Kent, J. F. Clark, G. W. Foster, Marcus W. Snow, James Ryder, William Field, J. W. Kirwan, Z. Nickerson, Jr., W. J. Bond, Winslow Foster, Charles James, John Johnson, C. C. Peters, John Montelius, A. L. Willis, J. H. Dizer, W. A. Eldridge, Enos Foster, J. H. Diggs, F. M. Easter, J. E. Ryan, H. S. Chase, Clarence Kirwin, James McDorman, J. S. Hudgins, Arthur T. Hudgins, G. D. Robinson, Thomas P. Pratt, F. M. Dow, M. K. Crowell, P. H. Tyler, I. P. Freeman, Walter M. Jones, W. E. Briggs, Miles Hillary, E. T. Page, Peleg Thacher, W. C. Nickerson, Osmyn Berry, G. J. Hart, J. S. Howes, O. M. Rogers, B. F. Hatch, W. E. Payne, S. T. Herbert, J. B. Wood, J. M. Dodge and F. C. Hudgins.

THE TOLCHESTER EXCURSION BOATS

Sarah K. Taggart, a little side-wheeler, was brought from the Delaware River in 1878 to run from Baltimore to Tolchester Beach. Captain Calvin Taggart of Philadelphia was first president of the enterprise and William Bials, general manager. The following year *Pilot Boy,* Captain James H. Truitt, was brought from Philadelphia and Captain W. C. Eliason made manager. *Nelly White,* a favorite old-timer, was added to the fleet, going to the Potomac in 1890 and afterwards scrapped.

Louise was purchased for the Tolchester Line from the York River Steamboat Company in 1883 and rebuilt, being commanded by Captain James H. Truitt. *Louise* had been built in 1864 for Charles Morgan's Gulf fleet, and later had run between Baltimore

and West Point. *Louise* was again rebuilt in 1899, little of the original steamboat then remaining. *Louise,* long a favorite steamer on Chesapeake Bay, was sold in 1925 to C. L. Dimon, being rebuilt at Baltimore, coming out as *Express,* and running between Bayonne and Coney Island.

Nelly White was lost off Sandy Point in 1886 in collision with a schooner. No passengers were aboard and no lives lost. *Emma Giles,* Captain John T. Harrison, built at Baltimore by W. E. Woodall & Company in 1887, was added to the Tolchester fleet. *Samuel M. Felton,* Captain Oliver Woolford, from the Delaware River, was purchased and rebuilt in 1889, being renamed *Tolchester.* Captain Calvin Taggart died in 1890, succeeded by Captain W. C. Eliason as president and general manager.

Susquehanna, Captain John J. Kirwan, a propeller built by Charles Reeder & Son, was added to the fleet in 1898, and that year the company opened the Susquehanna River route. *Tolchester* was sold for New York waters and the company purchased Piers 16 and 17, Light Street, Baltimore, and added to its Tolchester property.

The Sassafras River Steamboat Company was acquired in 1899, when *Sassafras* and *Trumpeter* were added. *Sassafras* was cut in two and 23 feet added in 1901 and became *Annapolis,* while *Trumpeter* was rebuilt and renamed *Kitty Knight,* being later sold to the Rock Creek Steamboat Company. The company acquired the Maryland Steamboat Company in 1891 and in 1905 Pier 15 was purchased from the Jones estate.

Captain Eliason died in 1921 and Captain William H. Hudson was elected president and general manager. *Susquehanna* was sold in 1923 and went to New Orleans. The Tolchester company now operates *Emma Giles* and *Annapolis,* side-wheel steamboats, in addition to Tolchester Beach, and owns the Annapolis & West River route, the Susquehanna River route and the Sassafras River route and owns all dock properties where landings are made. The former Staten Island ferry *Castleton* was purchased in 1925.

CHAPTER XVII

Western River Steamboats

THE grand era of Mississippi River steamboating embraced the fifties and continued until 1861, when the Civil War crippled the trade. After the war much of the country served by the river steamboats was impoverished. A flash of the old form came in the seventies and magnificent steamboats were built then, but the railroads took steamboat men and capital and when the mail contracts were lost, the Mississippi's steamboat glory faded to memories. River freight tonnage continued in high figures, but changed from package freight to poorer paid bulk shipments.

In the golden steamboat days of 1859 there were 32 fine passenger steamboats of 48,000 tons trading with St. Louis and New Orleans. "We now have but five steamers of 10,000 tons in St. Louis trade," said a New Orleans writer in the late '70's. "In 1859 we had 36 steamboats of 25,000 tons trading with Cincinnati, and we now have but eight of 10,000 tons. Every year the railroads are making greater inroads, so that in a few years steamboats will disappear entirely from the Cincinnati and New Orleans trade."

The snake-like winding Mississippi, doubling distances, with hundreds of miles of low banks and canebrakes, lost much of its romance when its hundreds of steamboats were not replaced when worn out, and there are presently long stretches of monotonous river without incident and without color, once alive with marching steamboats, frescoed like enormous wedding cakes afloat, snow white against the muddy waters and gray shores.

The old spirit lives and is quickened into action when a shrill whistle toots one or two bends "up river" and when a steamboat calliope rolls in its top notes from miles away. Shufflin' feet will not be stilled, business halts, and from shaded places colored folks, white trash and quality rise to see *Majestic, Pattona, Charles H. Organ, Sidney, Percy Swain, Princess, Dunbar, Robert Rhea* and *Bob Lee, Jr.,* steam by or head in shore, bristling derrick gear and outstretched platform booms like the tusks of a great monster. Present-day Mississippi River steamboats are embellished with buttery shelf paper design much in the manner of the grand packets of other times.

Some day when the mighty river has been tamed and shortened and made deep, it may again be picturesque with frequent spots of steamboat color, noisy with the splash of paddles and the hiss of steam, busy and alive, when it now seems to be hushed and still, for a river cannot seem to be so busy with a few score moving craft as in those romantic days of river glory when 2,000 steamboats ran and raced from Pittsburgh and from St. Paul to the sea.

Steamboats knitted the eastern states into a strong unit, and without them the new republican government might not have endured. Steamboats of the western rivers and lakes carried thousands of pioneer home seekers across the old boundaries. "Without steamboats the West might never have been the West."

When America was young its people lived close to the Atlantic seaboard and frontiers were close at hand. Lack of organized transportation delayed the march of western travel, though the West was known to possess great possibilities, yet holding grave dangers, as returning adventurers reported. In the War of 1812 cities and towns of the Atlantic coast were burned and this sacking gave impetus to the movement west. Those whose homes had been consumed were given land grants. The tide of emigration, beginning then, has never ceased its westward flow.

Pittsburgh is so identified with America's industrial development that its early importance as a port of embarkation is not appreciated nor understood. Pittsburgh had organized transportation on the Ohio and Mississippi Rivers in sailing vessels and flatboats before the coming of the steamboat, but it was the quickly built early steamboats on western rivers that moved the great horde of emigrants west, bringing back freights, though it is common to credit railroads with the upbuilding of the middle west.

With the organization of the national government in 1789 settlement of Ohio and Kentucky began. In that year a new town, Losantiville, was laid out, afterwards called Cincinnati. The Ohio Company had made its first settlement at Marietta but eight months before, and an act organizing a new government for the Northwest Territory was passed by Congress August 7, 1789.

Early-day travelers trusted their lives and property to the barge men, many of whom were suspected to be in confederacy with the land robbers who infested the shores of the Ohio, and pirates who resorted to the islands of the Mississippi. Flatboats consumed three to four months in the passage from New Orleans to Pittsburgh up to 1811, and the price of passage was $160, while freight was moved

up river at $6.75 per 100 pounds. When steamboats replaced flatboats and rafts, passage was reduced to $30 and freight rates dropped to nominal charges. Passage down river, availing of currents, was cheaper and so continued through the long period when steamboats served so splendidly.

Highways did not penetrate the middle west until many years later, and the Mississippi valley depended upon the large and small steamboats long after the railroads had come to share transportation problems in other sections. Mississippi River steamboats competed successfully with railroads for passenger and freight busines for many years after the first railroad tracks were laid into the territory.

The fact that river navigation was difficult and often impossible for long periods did not hasten railroad building, since capital was limited and railroad building met almost insurmountable barriers. Railroads, practical for so much of the eastern country, could not compete, at first, with river steamboats, which multiplied in numbers until 2,000 voyaged regularly on the Ohio, Missouri, Mississippi and tributary rivers.

This early-day Pittsburgh, so different from the present-day arsenal of war and of commercial steel manufacture, is built upon a solid foundation, from being the gateway port to the West. It possessed shipyards, engine-building shops, block and tackle factories, rope walks and anchor forges, and was a shipbuilding center of 1,395 population.

Full-rigged ships were built around Pittsburgh and sailed down the Ohio and Mississippi Rivers and over the seven seas. Pittsburgh's early-day shipping activities carried no suggestion that the city was 500 miles removed from salt water. The difficulties of the long river trip did not deter shipbuilders who built sloops, schooners, brigs, full-rigged ships and later steamboats in prodigal numbers and tonnage.

John Fitch built the first steamboat to navigate the Ohio River, at Bardstown, Ky., in 1798, where he had come to prosecute land claims. Dying the next year, he was buried on the shores of the Ohio River, "where the song of the boatmen would enliven the stillness of his resting place and the music of the steam engine soothe his spirit."

Captain James McKeever of the U. S. Navy and M. Louis Valcour became interested in the steam engine designed by Oliver Evans of Philadelphia. They united to build a steamboat 80 feet length, 18 feet beam to ply between New Orleans and Natchez. The boat

was built in Kentucky in 1803 and floated to New Orleans, where the Evans engine was installed. The river quickly subsided from flood level, leaving the boat high and dry. There was no prospect of the river's rising for six months, and, their capital exhausted, the owners allowed William Donaldson to erect the engine in a saw mill, where it cut up 3,000 feet of boards every 12 hours.

The partners had confidence in their steamboat plans, but were ruined when incendiary fires, started by hand sawyers, destroyed the mill and their engine. The firm lost $15,000 and was not able to realize its ambition to be the first steamboat operator on the Mississippi River.

Daniel French, of New York, patented a steam engine for boats with a vibrating cylinder December 12, 1809, and under this patent *Comet,* 25 tons, the second steamboat on the Ohio River, was built for Daniel D. Smith, but after two voyages, New Orleans to Natchez, *Comet* was dismantled and the engine set up in a cotton mill.

Robert Fulton and his partners, Chancellor Livingston and Nicholas I. Roosevelt, claimed exclusive right to steamboat operation on the rivers, when Roosevelt returned from a tour to ascertain the practicability of navigating the Ohio and Mississippi by steam power. Capital was subscribed in Pittsburgh and New York, and *New Orleans* was constructed at Pittsburgh, under the direction of Roosevelt, aided by Stoudinger, chief engineer of Fulton's Hudson River steamboats.

New Orleans measured 300 tons, 138 feet length and 30 feet beam. The drive was by stern wheel, and sails were spread on two masts. The engine had cylinder 34 inches diameter, and the boat cost $40,000; one-half this cost was earned the first season. *New Orleans* made its first voyage, Pittsburgh to Louisville, 700 miles in 70 hours. Low water prevented further progress, and during the next few weeks *New Orleans* made trips between Louisville and Cincinnati. It was able to proceed to Natchez in December, where it received freight and passengers for New Orleans, which became the regular route, covered in 17 days for the round trip. *New Orleans* served splendidly until 1814, when wrecked on a snag at Baton Rouge.

Before *New Orleans'* ability to move through the water without the aid of sails or oars had been proved, few persons believed it capable. Several voyages were made before prejudice subsided and "many of the river merchants preferred the old mode of transporta-

tion, with all its risks, delays and extra expense rather than to make use of a steamboat which to their apprehensions appeared too marvelous and miraculous for the business of everyday life."

Fulton built *Vesuvius,* 340 tons, Captain Frank Ogden, at Pittsburgh in 1814 for Louisville and New Orleans trade. With a large cargo it made half the distance in 10 days, recognized as a demonstration of the ability of loaded steamboats to stem the river current. *Vesuvius* ran between New Orleans and Natchez under command of Captain Clement in 1815-16, succeeded by Captain John de Hart. *Vesuvius* burned to the water's edge and after being submerged several months was raised and refitted, and then ran to Louisville until 1819, when it was condemned.

Enterprise, 75 tons, built at Brownsville in 1815, fitted with an engine made at Bridgeton under D. French's patent, took a load of ordnance to New Orleans in December and afterwards made 624 miles in 6½ days. This was the first steamboat to ascend the river from New Orleans to Louisville, May, 1816, reached in 25 days. *Enterprise* was commanded by Captain Henry M. Shreve, inventor of the steam snag boat, and the citizens of Louisville tendered him a public dinner to celebrate the first arrival.

Western people considered themselves indebted to Captain Shreve, next to Fulton, for early establishment of steam navigation on their rivers, and for having brought to a test, December, 1816, the claim of Fulton's partners to a monopoly of the use of steam propulsion. *Enterprise* and *Washington* were seized and the case carried to the Supreme Court, resulting in overthrow of the monopoly.

There were but 12 steamboats on the western rivers up to 1817, measuring 2,535 tons. The time to Pittsburgh from New Orleans was 54 days, of which 36 days was running time. These passages caused much comment and a bold merchant predicted that the rate for freight between New Orleans and St. Louis would fall to $3.50 per 100 pounds, but was regarded as visionary. Later, steamboats made money at 40 cents per 100 pounds.

The Monongahela and Ohio Steamboat Company sought patronage because their new crack boats could make nine miles an hour. That speed was thought to be dangerous, even if possible. Later on passengers were not satisfied if the speed was below a 20-mile clip.

The War of 1812 gave new impulse to the settlements West and freights multiplied. The increasing number of steamboats and more rapid passages found sufficiency of business and the old river craft were kept for towboats. Cincinnati built barges of 100 tons to go

to New Orleans in tow of steamers and *Etna* made the passage down river in 15 days, reflecting glory upon Cincinnati's commercial enterprise, and its citizens were elated.

Five steamboats had been built in 1816. *Vesta,* 100 tons, was the first built at Cincinnati. *Washington,* 400 tons, constructed at Wheeling, W. Va., with an engine built at Brownsville, was the first with boilers on deck instead of in the hold. It made the round trip from Louisville to New Orleans in 45 days.

Steam navigation was fairly introduced upon the Mississippi and tributaries in 1817. Eight new boats were built in that year, totaling 2,235 tons. The United States Mail Line launched *General Pike,* Captain Jacob Reed, commander, August 2, built at Cincinnati by Captain Nathan Bliss of Hebron, Connecticut, an intimate of Fulton. *General Pike* was a "low pressure steamboat" and was financed by the eldest son of General William H. Harrison and is said to be the first steamboat to ascend the river as far as St. Louis.

Thirty boats were built in 1818, Pittsburgh and Cincinnati taking the lead. Twenty-seven steamboats of 4,000 tons were trading with New Orleans and that year the Post Office made its first mail contracts with the steamboats.

Morris Birkbeck, an English traveler, notes in "Letters from Illinois," printed in London, 1818, "the increasing facility of upward navigation of the Mississippi and Ohio Rivers by steam" and quoted from the log book of the steamer *Etna,* confirming his opinion that "the upward navigation of these streams is already coming under the control of steam, an invention which promises to be of incalculable importance in the new world! The average speed against the stream of a steam vessel heavily laden is 60 miles a day," says Birkbeck. "A considerable number of these vessels, about 25, measure from 50 to 400 tons, are now plying on these rivers, generally built at Pittsburgh, or their machinery prepared there."

Independence, Captain Nelson, built at Pittsburgh, one of 54 new boats built in 1819, arrived at Franklin (Boonslick) on the Missouri River in seven steaming days from St. Louis, being loaded with flour, sugar, whisky, iron castings, and was the first steamboat to stem the Missouri River. *Western Engineer,* built near Pittsburgh, for the U. S. Topographical Engineers, was the first steamboat to reach Council Bluffs, 650 miles from St. Louis. *Virginia,* a stern-wheel boat, was the first to ascend the Mississippi as far as Fort Snelling, above St. Paul, in May, 1823.

Steam effected saving in time and cost of river transportation. The distances, average time and fares between ports, were:

Port to Port	Distance	Time	Fare
New Orleans to Cincinnati ...	1,480 miles	16 days	$50
Cincinnati to New Orleans ...	" "	8 "	$25
Louisville to Cincinnati	130 miles	30 hours	$6
Cincinnati to Louisville	" "	15 "	$4
Cincinnati to Pittsburgh	449 miles	5 days	$15
Pittsburgh to Cincinnati	" "	2½ "	$12

During the year 1823 a total of 68,952 tons of merchandise, valued at $3,500,000, descended the falls of the Ohio at Louisville. The value of produce shipped from Cincinnati was more than a million dollars. In 1823 three keel boats in tow passed 450 miles up the Wabash River. The first steamer ran on the Allegheny River 1826, and in the same year the ship *Illinois* reached St. Louis from New York, via New Orleans, 3,000 miles in 29½ days.

The opening of the Erie Canal in 1825 caused a great change in travel. The journey from New York to Pittsburgh was accomplished by Hudson River steamboat, the canal and only eight days staging. Passage from New Orleans to New York, via Pittsburgh, in 1824 was made in 24 days and cost $90, while passages from Natchez to Philadelphia, 2,000 miles, occupied 17 days. The Louisville and Portland Canal, around the falls of the Ohio, cost $750,000 and was opened December 5, 1830, and aided navigation and the immediate peopling of the West.

By 1830 steamboats to the number of 296 had been built, measuring 31,506 tons. Of these 100 were large steamers, averaging 300 tons. In 1834 Pittsburgh had built 304 steamers, Cincinnati 221, Louisville 103, Nashville 19, and 35 were built at other places. The number of steamboat arrivals in New Orleans in 1834 was 2,300, indicative of that port's trade.

WESTERN EMIGRATION MOVEMENT

Flint's History, published in 1832, reported:

> "On account of the universality and cheapness of steamboat and canal passage and transport, more than half the immigrants now arrive in the West by water. They no longer experience the incessant altercations with landlords, mutual charges of dishonesty, discomfort from new

modes of speech and reckoning money, from breaking down carriages and wearing out horses.

"More than half the northern immigrants arrive by way of New York and Erie Canal and Lake Erie. If their destination be the upper waters of the Wabash, they debark at Sandusky. The greater number make their way from the lake to the Ohio River either by the Erie and Ohio or the Dayton Canal. From all points, except those west of the Guyandot route and the national road, when they arrive at the Ohio, or its navigable waters, the greater number of families 'take water.' Emigrants from Pennsylvania will henceforth reach the Ohio on the great Pennsylvania Canal, and will 'take water' at Pittsburgh. If bound to Indiana, Illinois or Missouri they build or purchase a family boat.

"Many of these boats are comfortably fitted up and are convenient floating houses. Two or three families sometimes fit up a large boat in partnership, purchase an 'Ohio Pilot,' a book which professes to instruct them in the mysteries of navigating the Ohio; and if the Ohio be moderately high and the weather pleasant, this voyage is ordinarily a trip of pleasure. Wealthier families take passage in a steamboat."

EARLY STEAMBOAT FREIGHT CHARGES

The early steamboats increased the speed of travel and movement of merchandise, yet did little for some years after they commenced running to reduce the cost of freight shipments. This is established by testimony of Jasper Lynch, 1836, in connection with a claim of Robert Fulton's heirs for damages occasioned by the seizure of *Vesuvius,* for the use of the government at the time of the invasion of New Orleans in 1814. Lynch was engaged in steamboating on the Mississippi and in his affidavit said:

"The following steamboat freight charges on the Mississippi were established, I believe, by the legislature of Louisiana in 1812; from New Orleans to Louisville, 4½ cents a pound for heavy goods, and 6 cents for light, averaging 5 cents a pound, or $112 per ton. From New Orleans to Natchez, ¾ cents a pound or $1.50 per barrel; and the same rates were charged for all the intermediate landings, Donaldsonville, 75 miles; Baton Rouge, 120 miles, etc., or $15 per ton. From New Orleans to Louisville, passage $125; from New

Orleans to Natchez, $50, and half price for down passages. These rates continued uniform. I never received less and they were not reduced until 1819."

Hon. Levi Woodbury, in a letter from Shawneetown, April 16, 1833, described incidents of steamboat travel. "To entertain us and raise our spirits to-day the Captain pointed out the place where the boat, in 1826 with Lafayette on board, ran on a snag and sank, the old gentleman barely escaping with his life, and losing most of his baggage. We heard yesterday of another boat, called *Reaper,* in a similar way, some hundreds of miles south of us. Ten or 15 lives were lost, but those in the cabin were saved as the cabin floated off and did not sink.

"Our boat being high pressure type moves through the water with great speed, but with no ordinary noise. Every time it starts, and almost every half minute after, it issues groans like the lion or elephant when irritated or vexed. Then occasionally the steam starts out of the funnel like a flash of lightning, making a hissing noise that almost frightens one to leap overboard for safety.

"One man on board has a large collection of gamecocks which he is taking to New Orleans to sell at from $5 to $20 each. Another has common fowls for New Orleans market. Yesterday they selected a rooster from each, and after a long battle on deck the common barnyard cock rather worsted the gamecock. They then betted high, sawed off their spurs, put on gaffs and soon both birds were run through the neck; but the gamecock was first able to stand again and therefore won."

"Although the steamboats of the West are generally designed for carrying freight as well as passengers, it is astonishing what a number of persons one of them can carry," said the author of "A View of the Valley of the Mississippi," published in 1834. "A boat of 100 tons often carries 50 cabin passengers, perhaps twice as many on deck and 75 to 80 tons of freight. Boats of 500 tons, such as *Uncle Sam* or *Red Rover* or *Belfast,* carry 100 passengers in the cabins, 500 passengers on deck and 400 tons of freight, marching up the mighty Mississippi at six or eight miles an hour. New Orleans boats bring hundreds of Germans, Irish and other foreign emigrants who land at that port, and are seeking a home in the interior of the valley of the Mississippi. Steamboats descending from Pittsburgh carry hundreds of travelers and emigrants from the East."

Ohio and Mississippi River steamboats were mostly high pressure type, cheaper to build and of greater speed. *Jacob Strader* was

advertised as "low pressure," painted in box-car letters upon the paddle casings. "The distinction between high and low pressure types," said a commentor, "is considered important by sensitive travelers as they regard high pressure type as more dangerous." Charles

"The steamboats were finer than anything on shore"

Dickens expressed a like view in 1840: "It always conveyed that kind of feeling to me which I should be likely to experience, I think, if I had lodgings on the first floor of a powder mill."

Dickens journeyed down the Ohio from Cincinnati, and wrote: "We had, for ourselves, a tiny stateroom opening out of the Ladies' Cabin. There was undoubtedly something satisfactory in this 'loca-

tion' inasmuch as it was in the stern, and we had been a great many times recommended to keep as far aft as possible, 'because the steamboats generally blew up forward.'

"These western vessels are foreign to all ideas we are accustomed to entertain of boats. They have no mast, cordage, tackle or other such boat-like gear; nor have they anything in their shape at all calculated to remind one of the boat's head, stern, sides or keel. Except that they are in the water, and display a couple of paddle boxes, they might be intended, for anything that appears to the contrary, to perform some unknown service, high and dry, upon a mountain top. There is no visible deck even; nothing but a long, black, ugly roof, covered over with burnt-out feathery sparks, above which tower two iron chimneys and a hoarse escape valve and a glass steerage house.

"Then, in order, as the eye descends towards the water, are the sides and doors and windows of the staterooms, jumbled as oddly together as though they formed a small street, built by the varying tastes of a dozen men. The whole is supported on beams and pillars resting on a dirty barge but a few inches above the water's edge, and in the narrow space between this upper structure and this barge's deck are the furnace fires and machinery open at the sides to every wind that blows and every storm of rain it drives along its path."

EARLY STEAMBOAT ACCIDENTS ON WESTERN RIVERS

With so many steamboats hurriedly built for the Mississippi and tributary rivers many boiler explosions and fires occurred. Accident horrors were widely circulated. There was much mismanagement resulting from ignorance and high pressure engines had been introduced without providing increased boiler strength.

Washington's boiler exploded June 9, 1816, the largest and finest boat then floated on western rivers. Captain Shreve, commander, was skilled and experienced and the machinery was presumed to be in the best possible order. *Washington* left from Marietta, and while at anchor was carried near the Virginia shore by the current. A kedge anchor was dropped from the stern, and later, while all hands were hauling the kedge, the boiler end nearest the stern was blown off. A number were killed and others suffered frightful injuries.

Moselle's boiler exploded at Cincinnati, April 26, 1838, when 230 lives were lost. *Moselle* was a new boat, bound south from

Pittsburgh, and had left Cincinnati with a full passenger list for Louisville and St. Louis. Steam was allowed to accumulate in the hope of beating another boat.

"This insane policy, the poor ambition of captains and owners, has almost inevitably tended to the same melancholy results," said a writer. "The boilers burst just as the boat started, and it sank in 15 minutes. Nearly all on board perished." A public investigation was held in the Cincinnati council chamber and it was stated that *Moselle* had 250 cabin passengers, German emigrants and crew. The committee found that: "The blame principally rests upon Captain Perkin who had ordered all the steam to be put on that could be gathered. The engine had been strained ever since it commenced running, and she was one of the strongest and best boats ever built here, or must have inevitably met with similar accident before."

"For this result," one of the Cincinnati editors wrote, "we are in part to blame; we plead guilty, in common with other presses, of having praised the speed and power of the boat—a circumstance which doubtless contributed to inflate the ambition of the captain and owners to excel others in rapidity. If the public are to have any security against steamboat accidents, the press must change its tone. Boats must be praised for their comfort, convenience and the care and discretion of their commanders—but not for their speed."

Every place of business in Cincinnati was closed for funeral services held for 19 persons, residence unknown, and 20,000 persons marched in the procession to the public burying ground.

Fire and explosion destroyed *Ben Sherod,* Captain Castleman, with loss of 200 lives, May 8, 1837. *Ben Sherod* left New Orleans Sunday morning, bound for Louisville, and Monday night when 30 miles below Natchez, while racing with *Prairie,* fire was discovered. In a few moments the boat was enveloped. The wheel ropes burned and the boat could not be run ashore. Many jumped overboard and were drowned and those who remained on board were burned. The steamboats *Columbus* and *Statesman* picked up survivors, but less than 60 were rescued.

Public censure was heaped on Captain Littleton of the steamboat *Alton,* who was charged by the survivors in a memorial "for the reckless manner in which he drove his vessel through the crowd of exhausted sufferers, drowning many, and turning a deaf ear to the cries and pleadings of all, which cannot be forgotten by an indignant community, or the record of its truth be obliterated from public print."

Captain Castleman of *Ben Sherod,* who lost his father and two

children and whose wife was terribly burned, issued a statement which pictures early river steamboating. "As to reports of my officers and crew being intoxicated—the firemen were singing and dancing as they always do when on duty, but none of them were the least intoxicated, and the watch on duty at the time (the first watch having retired) had not been out of their beds long enough to get drunk if they had wanted to.

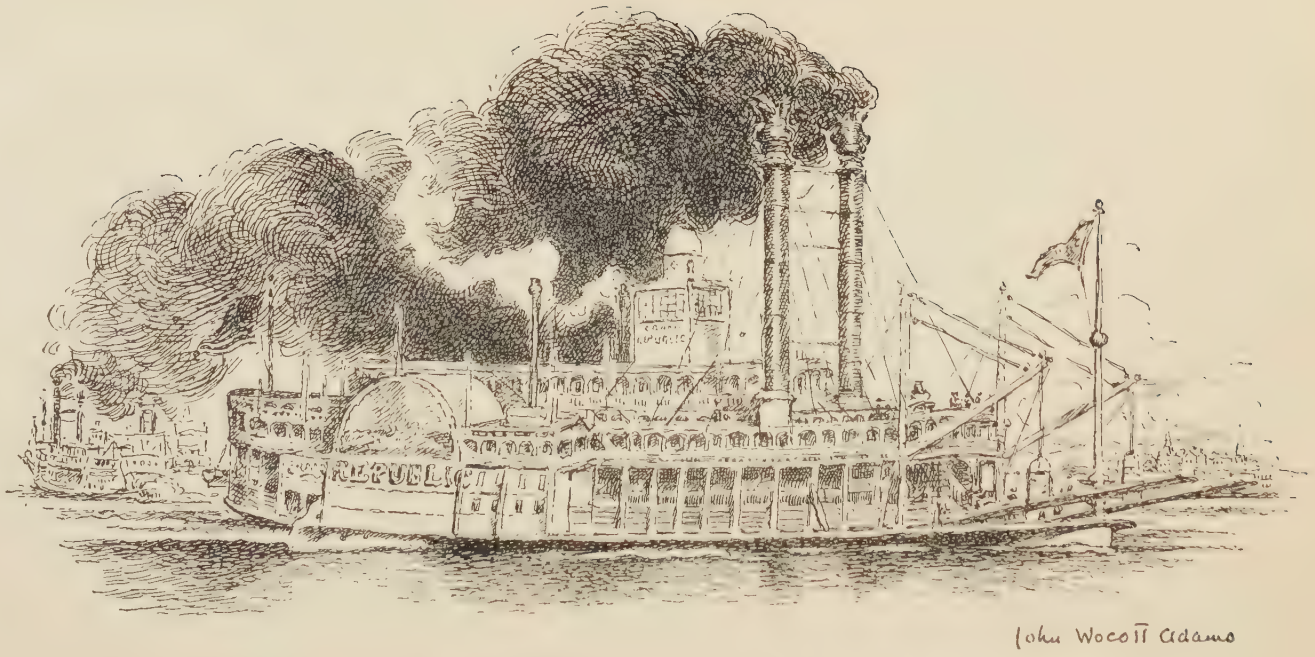
"We always gave our men, black or white, as much as they wanted, kept a barrel of whiskey tapped on the boiler deck for them, have always done so, and let one of the watch draw for his mates. I have done the same for the last ten years. My acquaintances will vouch for my discipline about drunkenness being severe. Indeed I am generally blamed for being rigid with my hands."

Whiskey ration was long granted Mississippi River steamboat crews. It was one of the attractions to make easy the shipping of a crew for very hard work.

Helen McGregor met with boiler explosion just after leaving Memphis, February 24, 1830, with loss of 50 lives. *George Collier* exploded a boiler May 6, 1839, about 80 miles below Natchez, while on its way from New Orleans to St. Louis, when 45 persons were scalded, of whom 26 died. *Chariton* blew one of its boilers, July 27, 1837, with a loss of three lives, just as it had proceeded a short distance up stream from St. Louis.

Oronoko, Captain John Crawford, left New Orleans Monday, April 15, 1838, and burst one boiler the next morning after leaving Princeton, Miss. Twenty persons were blown overboard and 50 scalded. Newspaper comment was severe. One editor wrote: "Seventy individuals are supposed to have perished in *Oronoko.* The boat was new and fitted up with remarkable elegance, but it has since been ascertained she had, with all this show, old boilers. Comment is unnecessary—the fact that it was so, and may yet be so in other boats, should arouse the community to universal expression of its just indignation. The criminal and murderous parsimony for the most important part of the boat should have been inquired into at the time and a just punishment awarded to the proprietors.

"Among the victims of this calamity was one who, by his own acknowledgement, justly merited his doom. He was a known blackleg, and in the extremity of the agony in which he died, confessed himself the incendiary who had fired the Pinkark House with the fiendish hope of burning the city of Vicksburg. Revenge for the acts by which his fellow-gamblers were expelled the city he avowed to be the cause that influenced him. He denounced another gambler,



Republic, one of the grand packets, had a river view painted on the paddle boxes

Doctor Saunders, as his partner in the intended sack of the city. Many thanks are due commanders of the steamboats *Peru* and *N. Albany* and *Independence,* for their prompt answer to the call of distress."

Motto, on its first trip from Louisville to Pittsburgh, August, 1836, ran on the shoals at the foot of Blennerhasett's Island, and in attempting to get off, steam accumulated, when the boiler exploded and three persons were killed, eight others being so severely scalded that they died soon after.

Monmouth left New Orleans October 31, 1837, for the Arkansas River with 600 Creek Indians aboard. Traveling through Prophet Island Bend, *Monmouth* met the ship *Trenton,* towed by the steamer *Warren,* and the vessels collided in the darkness. *Monmouth's* cabin parted from the hull, drifted downstream and broke in two, emptying its human load into the stream. Only 300 of the 611 Indians aboard were rescued by the crews of *Warren* and *Yazoo.* The disaster was ascribed to neglect by officers of *Monmouth,* which was running in a part of the stream where, by the usages of the river and rules of Mississippi navigation, it had no right to go, and where the descending vessels did not expect to meet it.

Belle of Missouri, stopping on the passage from New Orleans to St. Louis, a mile above Liberty, Ill., to take on wood, took fire. The 200 passengers escaped before a large quantity of gunpowder exploded. *Dubuque,* on its passage from St. Louis to Galena, exploded boilers August 15, 1837, when 16 lives were lost.

An unusual accident took place aboard *Flora,* en route from Louisville to Wheeling, November 17, 1836, when the boiler supports gave way, leaving the heavy boilers hanging by the steam connecting pipes. These broke and steam escaped, filling the social hall and cabins above. Two passengers died. *Mountaineer* towed *Flora* to Cincinnati.

Wilmington left New Orleans for St. Louis, November 11, 1839, and a little before daylight stopped to take on wood near the mouth of the Arkansas River. A few miles above Napoleon the middle boiler burst. The explosion threw the other two boilers into the river, with the stack. The pilot house was blown 150 yards. The explosion was followed by fire.

Changes in steamboat inspection, adopted in 1852, removal of snags and conservative regulations, did much to diminish the dangers of steamboating on western rivers. Captain Davis Embree prepared a list of 618 steamboats lost, from the introduction of steam to the

close of 1848, reporting 45 steamboats lost by collision, 104 by fire and 469 wrecked on snags. Losses sustained through explosions, collapsing flues and bursting steam pipes were not included. In the year 1851 it was reported 33 enrolled steamboats on western rivers were lost and 728 lives.

INCREASED RIVER TONNAGE

Treasury Department reports showed steamboat tonnage on the Mississippi and its tributaries in 1842 to be 76,033 tons and to have doubled in 1851.

Districts	Tonnage	
	1842	1851
New Orleans	28,153	34,736
St. Louis	14,725	31,834
Cincinnati	12,025	24,709
Pittsburgh	10,107	16,943
Louisville	4,618	15,181
Nashville	3,810	3,578
Wheeling	2,593	7,191
Vicksburg		938
Memphis		450
Total	76,033	135,560

Hundreds of flatboats bent on barter and trade floated on the lower river and its tributaries; legitimate traders, freighters with "up river" stuff," "bum boats" peddling dry goods, stationary and everything else; "gunboats" loaded with the refuse of sad existence; whiskey boats, which were floating saloons whose licenses expired with the taking in of their lines; photograph boats, pick-ups and pirates. Wild stories, too often true, were told of the buccaneers. "They all formed a wonderful link in internal commerce, and Pittsburgh is the natal place of this queer industry."

The average size of Ohio River steamboats in 1851 was 206 tons, and on the upper and lower Mississippi, Arkansas and Illinois Rivers 275 tons. On the Mississippi and Ohio there were many steamers from 300 to 400 tons and a number from 600 to 800 tons each, but the large number of light draught boats, built to run on the big rivers in periods of very low water, and to run up the smaller tributary streams in high water, reduced the average. The reported num-

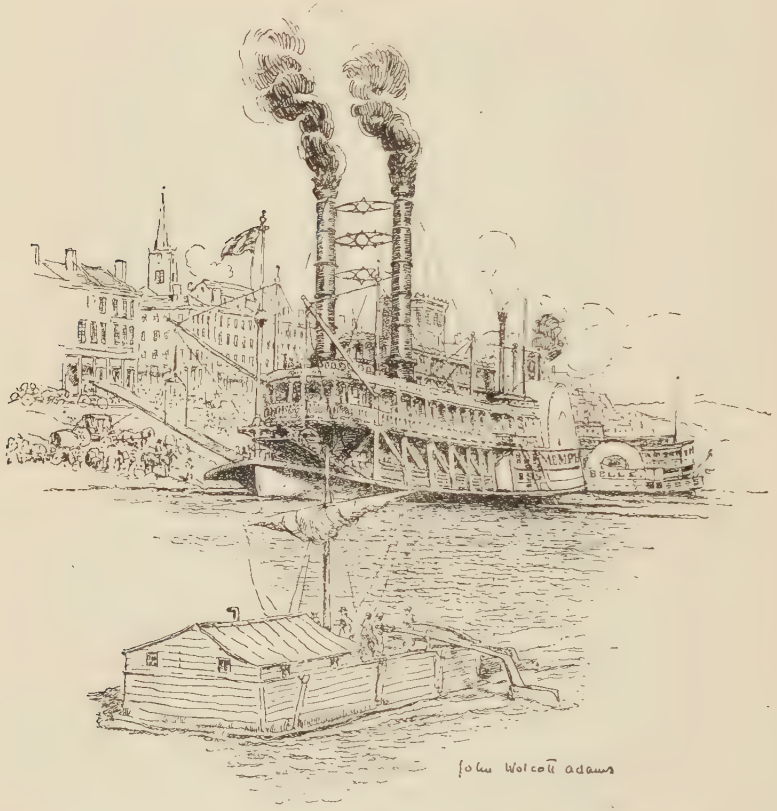
ber of steamboats constructed on western rivers from 1841 to 1860 was 2,489. After 1840 larger and swifter boats were built for passenger service.

Frederick Law Olmstead, eminent landscape architect, made a trip up the Cumberland River in 1856 and wrote of small tonnage steamers on tributary rivers:

> "The boat was a good specimen of a numerous class on western and southern rivers. They are but scows in build, perfectly flat, with pointed stem and square stern. Behind is one small wheel, moved by two small engines of the simplest and cheapest construction. Drawing but a foot of water they keep afloat in the lowest stages of the rivers. Their freight, wood, machinery, hands and steerage passengers are all on the main deck. Eight or ten feet above, supported by light stanchions is the floor used by passengers, one long saloon 8 or 10 feet wide which stretches from the stern to the smoke pipes far forward.
>
> "The saloon is lined on each side with staterooms, which also open out upon a narrow upper gallery. Perched above all this is the pilot house, and a range of staterooms for the officers, pilots and visiting pilots, popularly known as 'Texas.' Inveterate card players retire to this 'Texas' on Sundays when custom forbids cards in the saloon. A few feet of the saloon are cut off by folding doors for a ladies' cabin. Forward of the saloon the upper deck extends around the smoke pipes, forming an open space, sheltered by the pilot deck and used for baggage and open-air seats.
>
> "Such is the contrivance for making use of their natural highways. And really admirable it is, spite of drawbacks, for its purpose. Roads in countries so sparsely settled are impractical. These craft paddle about, at some stages of water, to almost everyman's door, bringing him foreign luxuries, and taking away his own productions; running at high water in every little creek, and at low water taking with profit the place of large steamers on the main streams.
>
> "The perils and annoyances connected with this mode of transportation became apparent when we struck a snag and broke several buckets of the wheel. After being partially repaired the boat frequently grounded, and, although it was always released after more or less delay, it was at last

driven hard and fast by rapids upon a heap of rocks barely covered with water.

"Then it was we learned the use of those singular spurs, which may always be seen in pictures of western steamboats. They are steamboat crutches. One of these, or the



Memphis at the levee in the days of Mississippi steamboat glory

pair if occasion require, is set upon the river bottom, close to the boat's head, and a tackle led from its top to a ring in the deck. Then, by heaving on the windlass, the boat is lifted bodily off the ground. As soon as she swings free, steam is applied with fury, and forward she goes until the spur slips from its place and lets her fall.

"We were amused to notice how little account the boat was considered in comparison with the value of time. Whenever the hull was in the way of these spurs, axes were applied without other thought than that of keeping hull enough to keep afloat. Costing little, these steamers are used with perfect recklessness. If wrecked, why they have long ago paid for themselves, and machinery and furniture can always be saved. This apparatus of stilts is used upon longest boats, and good stories are told of their persistence in lifting themselves about, and forcing a passage over gravel banks whenever freights are higher than steamboats. The 'first boat over' sometimes wins extravagant rewards. When sugar goes up to one dollar a pound in the up-river towns, after a dry season, a few hogsheads will almost pay for a cheap steamboat."

RUNNING TIME ON THE MISSISSIPPI

Prior to steam, 120 days was employed in poling flatboats from New Orleans to St. Louis, 1,300 miles. *Enterprise,* in 1815, established a record of 25 days for steamboats. This time was cut in half in average passages of 1823, while *General Brown* reduced passage to 9½ days in 1826. The average time for the same distance in 1860 was less than four days. The time between New Orleans and St. Louis was diminished through improvements in the form and manner of running steamers. A steamboat of 350 tons cost $50,000 and carried 500 tons down stream, or 1,500 bales of cotton on deck. The charge for cotton down from Memphis in 1846 was $2 a bale and below Natchez, $1. From New Orleans to Natchez the freight rate was 75 cents per 100 pounds.

Eclipse, built at New Albany, Ind., carried 1,200 tons. *Memphis,* of the Anchor Line, St. Louis and Memphis trade, made 18 miles an hour in still water. With light draught and high pressure 24 miles an hour was attained. *Altoona* ran between St. Louis and Alton, 25 miles, 1 hour and 23 minutes, and down stream in one hour flat. Eighteen miles an hour was considered good speed but was not unusual.

The regular steamers had main decks four or five feet above the water, and the guards overhung as in New York ferryboats. The paddle wheels were generally much further aft in side-wheelers than in eastern steamers. The saloon deck was 10 to 18 feet above the main deck and surrounded with staterooms which opened into it, as

well as onto a promenade around the outside of the boat. Saloons were commonly from 150 to 250 feet length.

The gambling gentry added color to the Mississippi River packets

Above the saloon deck was the promenade deck with another long tier of staterooms and the pilot house at its front, usually 50 feet

above the water. "Formerly, when there was no restraint upon reckless steam pressure or the explosive qualities of the boiler, its height, as well as that of the decks, was uncertain." Mississippi River boats follow the old profile and section plans in the main, and *Sidney,* a typical present-day steamboat of the Strekfus Line out of St. Louis, runs true to the old form.

Crack boats were 300 to 400 feet length, 36 to 40 feet beam, 8 feet depth of hold, and draught 2 feet light and 4 feet loaded. Latterly the river steamers were free from reckless races which endangered life, when the safety valve was fastened down, the furnace stuffed with tar and pitch, and the captain, rifle in hand, ready to shoot down the pilot of an opposing steamboat at the critical moment when the least deviation in steering would lose a race. The barbarous times passed with the frontier manners of the passengers. Sporting, drinking, gambling and fighting gave place to refinements and wealth rolled up as a result of speedy and cheapened steamboat transportation.

"The steamboats were finer than anything on shore," wrote Mark Twain. "When a citizen stepped on board a big fine steamboat he entered a new and marvelous world; chimney tops cut to counterfeit a spraying crown of plumes—and maybe painted red; pilot house, hurricane deck, boiler deck guards, all garnished with white wooden filigree work of fanciful patterns; gilt acorns topping the derricks; gilt deer horns over the big bell; gaudy symbolical pictures on the paddle box, possibly; big roomy boiler deck, painted blue; and furnished with Windsor arm chairs; inside a far receding snow white 'cabin'; porcelain knob and oil picture on every stateroom door; curving patterns of filigree work touched up with gilding, stretching overhead all down the converging vista; big chandeliers every little way, each an April shower of glittering glass drops; lovely rainbow-light falling everywhere from the colored glazing of the skylights; the whole a long-drawn, resplendent tunnel, a bewildering and soul-satisfying spectacle; in the ladies' cabin a pink and white Wilton carpet, soft as mush, and glorified with a ravishing pattern of gigantic flowers."

Flatboat men came home from New Orleans on river steamers, taking deck passage to St. Louis or Cincinnati and paying $3 to $6 fare, according to the number of boats leaving and the terms they could make. "Deck passage" meant 2,000 miles with a stateroom under the boiler battery, a dining saloon among the mules "back aft" and a continual punching up at midnight by the "mud clerk," together with fights and thievery of the semi-barbarous, double-

jointed, unintelligible Voodoo roustabouts, a feature of human existence which had to be experienced to be appreciated.

RACE BETWEEN *Robert E. Lee* AND *Natchez*

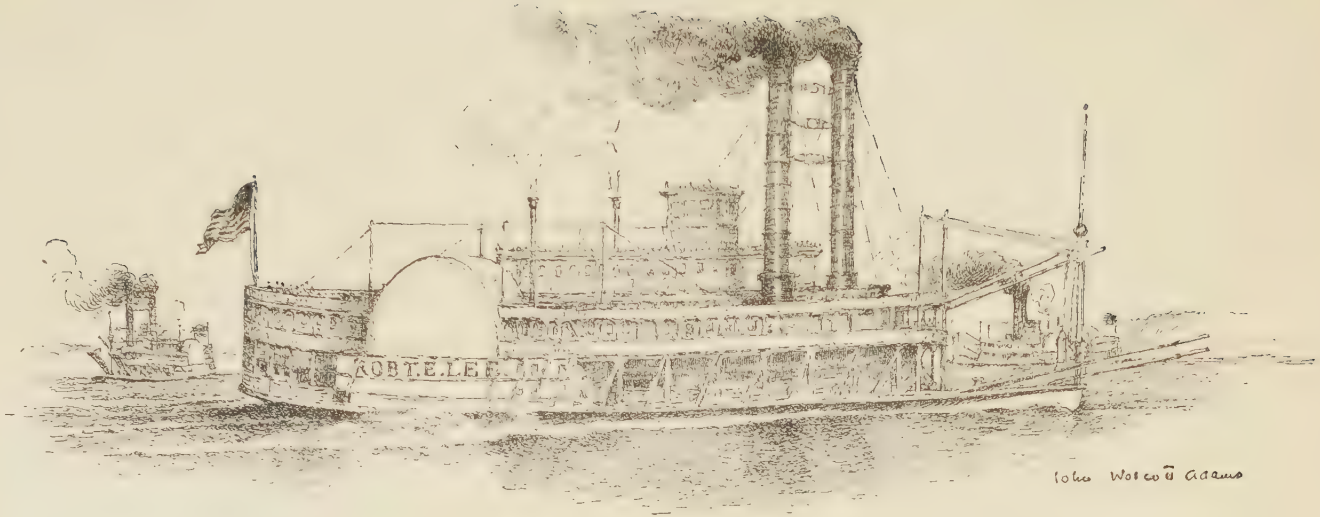
The long-distance race between two favorite packets, *Robert E. Lee,* running out of St. Louis, and *Natchez,* a mail boat running between Vicksburg, Natchez and New Orleans, stirred the country. Both boats were fast, capable of 18 miles' speed against the current and commonly exceeding 25 miles an hour down stream. Big money was wagered on the result. Captain John W. Cannon commanded *Robert E. Lee* and Captain Leathers was master of *Natchez.*

The two fliers pulled away from New Orleans at 4:55 in the afternoon of June 30, 1870, and hung together hour after hour through the days and nights until fog shut in at Devil's Island. *Robert E. Lee* kept on, but the lower river liner tied up for six hours until the fog cleared. *Robert E. Lee* was first to arrive at St. Louis, July 4th, at 11:25 A.M., while *Natchez* finished at 4:55 in the afternoon. Elapsed time for *Robert E. Lee* was 3 days, 18 hours and 30 minutes, beating *Natchez* 6 hours and 33 minutes. The distance traveled was 1,210 miles.

Considering the time *Natchez* lost in the stop for fog, and the long distance traveled, the speed of both boats was remarkable and the result was so close as to be indecisive for the friends of *Natchez.* Much of the course was in strange waters for Captain Leathers' ship. The great river race was told in colored lithographs, hurriedly distributed and became famous in song and story, a part of the river tradition.

This was the second *Robert E. Lee,* built in 1866. The original *Robert E. Lee* was built many years before the Civil War, to run between New Orleans and St. Louis, and was owned by the Anchor Line, organized by Captain T. Rezin Belle, the first steamboat line organized on the Mississippi. Captain Belle was master of the original *Robert E. Lee* and when it became disabled he built the new *Lee,* named for his lifelong friend, the General.

Other contests, as that between *Eclipse* and *Shotwell* and the speed trials of *Grand Turk* were discounted. The romance of a half century of steamboating on the Mississippi was centered in the favorites *Robert E. Lee* and *Natchez,* and while big boats continued to be built after their time, the sentimental curtain really fell with their passing. Piloting became an ordinary occupation, no longer magnificently rewarded, when the federal government began to re-



Robert E. Lee, which triumphed over *Natchez* in a long match race on the Mississippi

move bars and snags, and cut out trees, thousands of obstructions in a single season. The gambling gentry, long picturesque figures of the boats, went ashore when rich travelers favored the quicker railroads, and river transportation lost much of its glamor when the railroads divided patronage.

Pittsburgh and Cincinnati continued to build steamboats and their engines, while Madison, Jefferson City and New Albany built hundreds of steamers. James Howard turned out 400 steamboats from his slips at Madison, Ind., and the famous *James Howard,* named for him, was 330 feet length, 55 feet beam, 96 feet extreme breadth and 10 feet depth of hold, registering 3,500 tons. "The staterooms are superb," wrote Colonel John W. Forney; "the dining-room is a gorgeous saloon in a style equal to poor Jim Fisk's gaudy Sound boats."

The floating theaters formed one of the most interesting features of river life on the Mississippi, and while they continue, for the most part as moving-picture palaces, something of the old glamor is gone and much of the romance has departed. Time was when the river shows brought the only contacts with the far-off world, when the only pictures of splendor were those set on floating stages, and when cosmopolite and provincial renewed acquaintances annually.

The floating theaters were great barges without power, towed by steamers, containing a lower deck for whites, a "nigger heaven" that was that, in fact, a stage and dressing rooms, which were also staterooms for members of the acting troupe. The towing steamer contained the galley, company mess hall, laundry and crew's quarters.

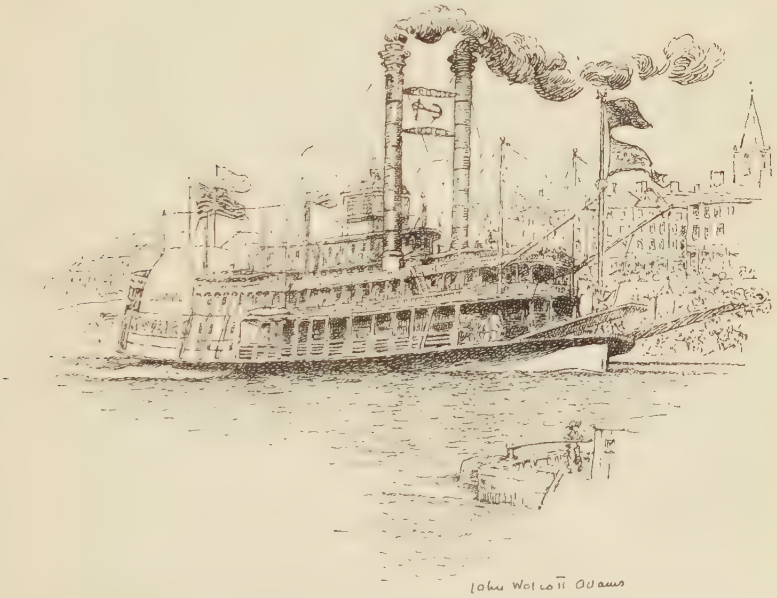
Several musical and dramatic organizations made the river towns, spending whole seasons in visits to west bank towns on the down trip and visiting the eastern shore cities and towns on the up-river trip. Romano's Wonderland theater continued its visits more than 30 years, and was so popular and set so high a standard that notice of its coming only needed to be posted when capacity audiences stormed the gangways for admission.

The acting company was composed of 28 players, while the crew of the boats, stage hands, ushers and members of the business staff added 24 others, the company making a brave street parade showing at noon with 52 persons. The day-time band became the evening orchestra.

It was usual for the theater to cast off its lines when daylight was breaking about 4 o'clock, and the next stand was usually reached before 10 o'clock in the morning. The mate of the towing steamer was also an artist at the calliope's keyboard, and in answer

to the shrill notes, a reception committee was formed to meet the show at the river bank.

Immediately the lines were out and the flotilla made fast, all hands organized for the parade. Fires were banked and everybody marched. Then back came the company to the floating theater to prepare for the evening performance. The crowd followed early on evening's dusk. Old melodramas, where virtue triumphs and sin is so very attractive for a time, were favorite pieces.



City of Cairo, of the famous Anchor Line, on the Mississippi

Salaries were small, even for the times, but living costs were even less. Actors, if restrained from gambling and drinking, and the better organizations did not tolerate either, quit at the end of the season with a sizable roll. Men and their wives were able to retire on competencies. A section of the west holds many retired cane-brake troupers. It was a lazy life. Once caught in its meshes few climbed out of it, and many with fading talents joined the indolent army of the river.

With lessened income the type of river steamboats changed to stern-wheelers and barges towed by stern-wheel and propeller tugs.

If the waterways projects are effected, and every Congress is urged to begin the work, the distances on the Mississippi may some day be cut in two. The river would then demonstrate transportation economies not now permitted, but canalization of the great Mississippi River, draining 13 great states, while it would create great wealth, would be a major undertaking of enormous cost.

MISSOURI RIVER STEAMBOATING

Major Long's *Western Engineer,* the first steamboat to ascend the Missouri River, was 75 feet length, 13 feet beam and 19 inches draught. The bow was contrived as the head of a serpent, the boiler and engine masked from view, and smoke escaped through the serpent's mouth. The speed was three miles an hour and the boat was designed to frighten Indians. It got up river as far as the present location of Council Bluffs.

Steamboats began to ply between St. Louis and Fort Leavenworth in 1829, and in 1832 the American Fur Company undertook long voyages, one or two steamboats making extensive trips each year. The first of these was *Yellowstone,* side-wheeler, 130 feet length, 19 feet beam and 5 feet draught, which got into northern Nebraska and was stopped by low water, afterwards reaching the present site of Pierre, S. D.

Yellowstone reached Fort Union, near the mouth of Yellowstone River, the following year, accompanied by *Assiniboine,* which went farther and was caught by low water, remaining through the winter. Maximilian, Prince of Wied, was a passenger.

Steamboats of shoal draught, 200 feet length, 30 feet beam, floated in 2½ feet of water. Later stern wheels replaced side paddles. The Missouri River was always difficult to navigate, the stream's bed shifting constantly throughout its 2,600 miles length. Fueling was a problem, as cottonwood trees, close at hand, made poor fires. Early steamboats carried oxen to haul wood to the boat side, and sawmills on board cut timber as the boat proceeded. Hunters were shipped as members of the crew to rustle game and performed no other work.

Audubon, naturalist, made a voyage of discovery, 1843, aboard *Omega,* Captain Sire. He held a liquor permit from the government, encountered "no personal difficulty," and was "immediately settled comfortably." Despite activities of prohibition agents, largely recruited from the clergy, steamboats carried liquor into prohibited Indian country.

The annual voyage of 1844 was made by *Nimrod,* Captain Sire, but it was not until 1853 that *El Paso* outdistanced the farthest north record of *Assiniboine* by 125 miles and passed the mouth of Milk River. In 1860 *Chippewa* and *Key West* arrived at Fort Benton in the present state of Montana, "a point further from the sea by continuous water course than any other boat had ever been," 3,575 miles from the Gulf of Mexico and almost a half-mile above sea-level.

STEAMBOATING ON THE UPPER MISSISSIPPI

When the Rock Island Railroad had been extended west to the great river, June 5, 1854, a steamboat excursion on the upper river was organized by the railroad in celebration. Guests included former President Millard Fillmore, Charles A. Dana of the New York *Sun,* George Bancroft, historian; Mayor Isaac L. Milliken and the city councilors of Chicago, a distinguished party of 250 which arrived at Rock Island by rail and embarked aboard five favorite steamboats: *Galena,* Captain B. D. Morehouse; *War Eagle,* Captain Harris; *G. W. Sparrowhawk,* Captain L. Morehouse; *Golden Era,* Captain Hiram Bercie, and *Lady Franklin.*

William R. Tibbels, then a cub pilot, recalled the excursion to the upper waters. "The boats anchored abreast below Rock Island and after dark fireworks were displayed from about where the arsenal now stands. The next morning at daylight the boats started up over the rapids. Being allowed to run only in daylight, we lay up at sundown near Dubuque. The following day we viewed the battleground and 'the slough hole' where the United States Army drove the Indians under Chief Blackhawk into the river, capturing many and killing many. That battle ended the Blackhawk War.

"We stopped at La Crosse and Tremealeau, Wis., where ex-President Fillmore spoke. The boats lay up at sundown under the lee of Chimney Rock, one of the highest bluffs on the river. We went through Lake Pepin in the afternoon and next day landed at Prescott, Wis.; steamed up Lake St. Croix five or six miles and arrived at St. Paul in the afternoon. The citizens of St. Paul gave a big banquet in the House Chamber of the old capitol. The next day we steamed to St. Anthony's Falls and Fort Snelling. The boats ran night and day on the return trip to Rock Island."

FATE OF THE FIRST MISSISSIPPI BRIDGE

Railroads timidly intruded the steamboat field. The Chicago & Rock Island was bold enough to build a wooden bridge of Howe truss type, five spans and draw, at Davenport in 1853, and completed in 1856. F. J. Nevens, valuation engineer of the present Rock Island system, uncovered the story of the war between the steamboat interests and the Mississippi & Missouri Railroad, precipitated by the bridge building. The bridge was built in the face of powerful opposition and a prohibitive ruling by Jefferson Davis, Secretary of War, for it crossed a government reservation.

"Who can tell the true story of *Effie Afton,* that Louisville-New Orleans packet steamboat sent north from St. Louis on her first trip?" asks Mr. Nevens. "Who can describe the impelling thought that controls this boat on the morning of May 6th—14 days after the crossing of the first train—when the steamboat proceeded some 200 feet above the draw, and then, one of her side wheels stopping, she swung in against the bridge? Who can tell just how the galley stove tipped over that set fire to the steamboat, and which in its burning destroyed the bridge span where it struck? Is it possible that Parker, the pilot, might solve the riddle were he here?"

Effie Afton's owners sued for damages. The directors of the bridge company knew popular feeling was with the steamboat fraternity. They anticipated lower courts would decide for the steamboat owners "owing to the prevailing sentiment." A strong and popular man was needed to handle the case for the railroad's subsidiary. A young lawyer from Sangamon County, Illinois, was recommended, "one of the best men to state a case forcibly and convincingly, with a personality to appeal to any judge or jury hereabouts," as his sponsor described him—Abraham Lincoln.

The case was docketed as Hurd *vs.* Railroad Bridge Company and was tried before Justice John McLean in the Circuit Court, September, 1857. The jury failed to agree and was discharged.

Abraham Lincoln again appears in steamboat history through a patent granted to him in 1849 for "an apparatus for buoying vessels, designed to be placed on each side of the hull of steamboats, or other vessels, and inflated somewhat as a bellows, to float them over sand bars, snags and other obstructions."

James Ward, a steamboat owner of St. Louis, filed a bill, May 7, 1858, in the United States District Court, Southern Division of Iowa, praying that the "bridge be declared a nuisance and ordered removed." Judge John M. Love so ordered, but on appeal to the

Supreme Court, December, 1862, the bridge was permitted to stay.

Complaints of steamboat owners and captains that the bridge obstructed navigation led Congress, in 1866, to pass an act requiring the first Rock Island bridge to be taken down and supplanted with a new bridge to be erected at the joint expense of the United States and the railroad, and the new structure was completed in 1872.

Congressional bridge laws, passed in the seventies, permitted railroad bridges to be built at points named in enactments, provided a design and style of construction was adopted avoiding serious obstructions to navigation. This left large field for controversy. Steamboat owners demanded bridges built to clear high chimneys. *James Howard,* one of the big boats of 1874, had stacks 104 feet above the water and those of *Great Republic* reached even higher. Advocates of bridges insisted excessive high chimneys were not absolutely necessary and concessions were obtained.

The first struggling steamboats on western rivers were important agencies in America's development. When steamboats were introduced, the Republic was composed of 17 states, all of which touched or were very close to the Atlantic seaboard. Westward was a great wilderness. Farthermost settlements on the Ohio and Mississippi could be reached with relative ease, floating down these rivers in flatboats and rafts, but communication with the East, or return, in sailing craft up these streams was slow and tedious. Within just a few years puffing steamboats united the East with the West. Steamboats contributed magnificently to the growth and development of the West, and in changing circumstances the great rivers may again be important in the country's transportation systems.

CHAPTER XVIII

When America Led in Ocean Steam

THE ocean steamship is an American institution. Just as there were English builders contemporary with Rumsey, Fitch, Morey, Stevens and Fulton in the steamboat field, there were early English workers in ocean steamship development, but *Savannah,* 1819, was the first steamship. Crockett & Fickett built *Savannah* at Corlear's Hook, New York, a full-rigged ship with steam power driving side paddles. *Savannah* measured 380 tons and the engine was but 90 horse power.

Savannah's first trip was to Savannah, then to Liverpool in 25 days, and during seven days moved by sails alone. *Savannah* visited Cronstadt and returned to America. Subsequently the power was removed and *Savannah* became a sailing packet and was lost off Long Island Sound.

England seized upon the steamship and mushroom companies were organized to operate steam packets on a hundred routes, only to fail. *Enterprise* steamed to Calcutta in 113 days in 1825, and then regular lines began to operate to France, Spain, the Mediterranean, the East and West Indies and to America.

Brunel's *Great Western* was an epoch-making steamship, 236 feet length, 35 feet 4 inches beam, 23 feet 2 inches depth of hold and 16 feet 8 inches draught and measured 1,340 tons. Engine and wheels weighed 310 tons, the four boilers 90 tons and the rating was 750 horse power. The engine's cylinder diameter was 73½ inches by 7 feet stroke, and the paddle wheels 28 feet 9 inches diameter with buckets 10 feet wide.

Great Western was launched at Bristol, England, July 19, 1837. *Sirus* left Cork for New York, April 4, 1838, and four days later *Great Western* left Bristol in chase. Both vessels reached New York April 23rd. *Great Western* returned in 14 days, consuming 392 tons of coal. The eastward voyage had used 455 tons. In the next five years *Great Western* made 64 transatlantic voyages and was then sold to the West India Steam Packet Company and was broken up ten years later.

Great Britain was the first large iron-hulled ship, though Trevithick and Robert Stevenson had advocated iron for hulls and spars. Dickenson patented an iron boat in 1815. James Laird of Birkenhead built a number of iron steamers including *John Randolph,* brought to America by G. B. Lamar of Savannah. *Rainbow,* 600 tons, was the largest iron steamboat built prior to the advent of *Great Britain.*

Brunel believed in the screw propeller, but in England it was regarded as impractical. Ericsson could obtain no foothold in England and came to America under Commodore Richard Stockton's patronage. Thomas Petit Smith's company put the propeller to practical test in *Archimedes* in 1839.

Paddle wheels, first planned for *Great Britain,* were abandoned and Brunel prevailed with the directors to substitute the screw propeller. The foresight of Brunel largely influenced maritime prestige of England. *Great Britain* was 322 feet length, 51 feet beam, 32.6 feet depth of hold, 16 feet draught and 3,443 tons. The engine had cylinder 80 inches diameter by 6 feet stroke, turning propeller 15.6 feet diameter by 25 feet pitch. The crankshaft was hollow and a stream of water circulated through it to cool the bearings.

The engine shaft connected to the propeller shaft through sprockets and chains, the engine making three revolutions to one of the driving shaft. *Great Britain* ran a short time in the Liverpool-New York trade, when it was sold for an Australian route, and later was converted to a sailing ship, being stranded at the Falkland Islands in 1886. Building *Great Britain* and new competition ruined the Great Western Company.

The Cunard Company was organized by Samuel Cunard, a native of Philadelphia, who had previously operated ships from Nova Scotia and Boston. In 1840 the Cunard Company launched the mail steamers *Acadia, Brittania, Columbia* and *Caledonia,* wooden ships with side wheels. The mail contract with the British government entered into for seven years has continued since. *Brittania* made Boston from Liverpool in 14 days and 8 hours. *Brittania* was 207 feet length, 34 feet 2 inches beam, 52 feet 4 inches depth of hold, 16 feet 10 inches draught and registered 2,050 tons. The engine had cylinder 72½ inches diameter by 82 inches stroke of 750 rated horse power, and the four boilers were capable of withstanding 9 lbs. pressure to the square inch. The 12 furnaces contained 222 square feet of grate surface and consumed 5.1 lbs. coal per horse power hour, or 38 tons daily, with 640 tons bunker capacity. The average speed was 8½ miles and 90 passengers and 225 tons of

freight were carried. These dimensions are substantially accurate for the sisters of the fleet.

Hibernia was added in 1843 and in 1845 *Cambria.* These vessels carried only first-class passengers, emigrant business not being established until 1850, and not taken on by the Cunard Company until 1853.

America was producing big tonnage in steam vessels in this period for river and coast vessels. The United States government began to employ steamers for carrying mail in 1847 and this year the United States and Pacific Mail companies were organized. The Pacific Mail sent out *California,* 1,058 tons; *Panama,* 1,087 tons; and *Oregon,* 1,099 tons in 1847 and '48. The United States Mail, at the same time, built *Georgia,* 2,727 tons; *Illinois,* 2,123 tons; and *Ohio,* 2,432 tons, wooden ships with side wheels, and side lever beam engines.

The discovery of gold in California brought magical results and within ten years the two companies added 29 steamers. They carried 175,000 persons to California and brought back $200,000,000 gold. Increase in the size is told from the building of *Golden City,* 3,375 tons, in 1864. That America was contributing a large share of the ocean steam tonnage is shown in reports of four seaport cities which, from 1830 to 1861, built 80 sea-going steamships of 120,000 tons at a cost of $29,000,000.

Clarion, 250 tons, was a propeller built in 1841 to run between New York and Havana, and six screw steamships were built in Philadelphia in 1842. Woodcroft and Loper were Americans who did much to improve the design of propellers. *Massachusetts,* 751 tons, is believed to be the first large ocean steamship sent out from America.

The Post Office contracted with Edward Mills in 1845 for 20 trips to Europe, being the first government encouragement of steamship lines, as England was doing. The original English grant to Cunard was $400,000, later increased to $725,000 and still later to $865,000. Against the odds of this mail subsidy American steamship operation suffered. Mr. Mills' contract called for $400,000 annually. He built *Washington* and *Herman,* the builders being Westervelt & Mackay, New York, to run to Bremen monthly in winter and semi-monthly in summer. They resembled the long sailing packets, painted with long strakes of black and white and fitted with paddle wheels, and, while seaworthy and comfortable, were inferior to the Cunarders in speed.

Washington and *Herman* were 236 feet length, 39.6 feet beam,

Washington and *Herman* were the first steamships in New York-Havre service

31 feet depth of hold and 19.6 feet draught; registered 1,750 tons and had two side lever engines with cylinders 72 inches diameter by 10 feet stroke. Paddle wheels were 34 feet diameter and 7.6 feet width, turning 11 revolutions per minute. Two iron flue boilers, side by side, supplied steam pressure at 12 lbs. and consumed two tons of coal hourly, giving 11 knots speed.

Franklin, 2,400 tons, and *Humboldt,* 2,850 tons, were built in 1850 and '51 to run to Bremen, but instead ran to Havre. *Franklin* had two side lever engines with cylinders 93 inches diameter by 8 feet stroke, and *Humboldt's* engines had cylinders 95 inches diameter by 9 feet stroke. Novelty Iron Works built the power equipment. *Franklin* was lost off Long Island in 1854 and *Humboldt* was lost near Halifax in 1853.

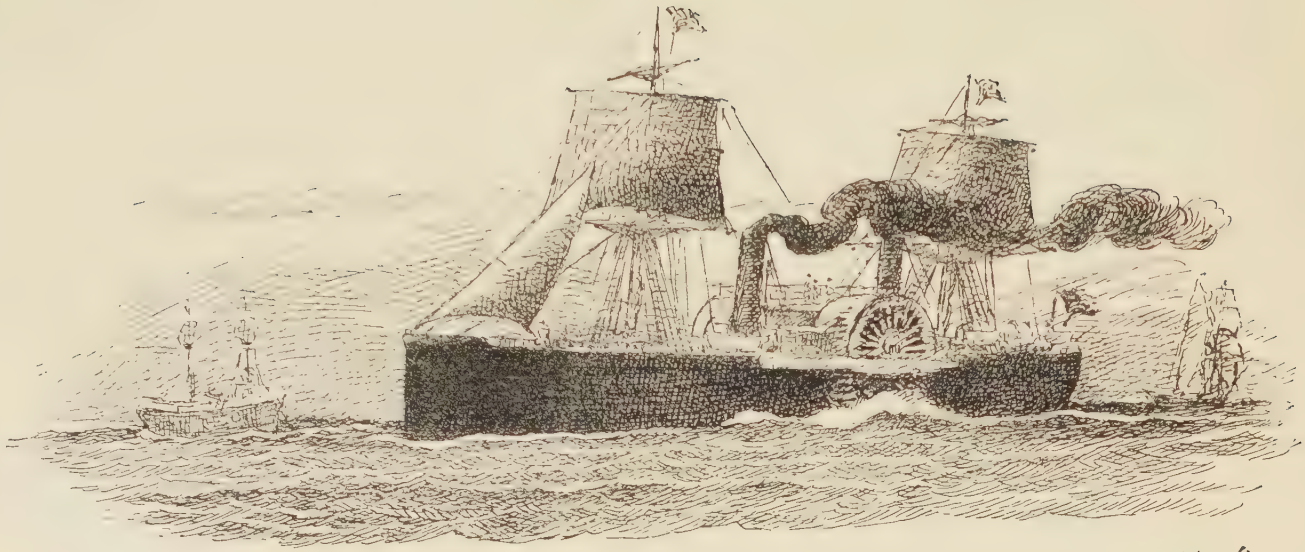
Arago and *Fulton* were built to replace them in 1855-56. *Fulton,* 3,000 tons, was 290 feet length, 42 feet beam, 31.6 feet depth of hold and 17.6 feet draught, with two inclined oscillating engines, with cylinders 65 inches diameter by 10 feet stroke, built by Morgan Iron Works. The paddle wheels were 31 feet diameter by 9 feet width. *Arago* and *Fulton* went into Civil War service, and after the war *Arago* was sold to the Peruvian government and *Fulton* was broken up.

Vanderbilt was put on the New York, Southampton and Havre Line, established by Commodore Cornelius Vanderbilt, in 1857, a wooden ship built by J. Simonson, 340 feet length, 49 feet beam, 33 feet depth of hold and 20 feet loaded draught, measuring 4,000 tons. Two overhead beam engines had cylinders 90 inches diameter by 12 feet stroke and the paddle wheels were 41 feet diameter by 10 feet width. The four boilers had 18,000 square feet of heating surface, carrying steam at 18 lbs. pressure and at 17 revolutions of the wheels did 12½ knots, consuming 100 tons of coal daily.

North Star, Northern Light, Ariel and *Ocean Queen* were added to the Vanderbilt Line and continued to run until 1861 when the Civil War interfered. These ships were fitted with beam engines.

William Wheelright, an American like Samuel Cunard, found America slow to respond to his promotions and went to England where he became active in the Pacific Steam Navigation Company which was to grow to very large operations.

The United States had become a power upon the seas through general exchange of products and reciprocal treaties. Other contributing factors were: lessened cost of American ships, superior qualities of American seamen, establishment of packet lines, reservation of coasting trade to American ships, the discovery of gold in



Vanderbilt, which the Commodore gave to the Nation in the Civil War

California, and the prompt, aggressive and liberal policy of the Government toward shipping. America had 3,335,454 tons of ocean shipping and 1,900,000 tons in coastwise trade in 1850, and by 1860 American tonnage was 5,350,000 tons and of the $597,247,000 total foreign trade American ships carried $437,190,000, notwithstanding England was laying out $4,000,000 annually on her own lines in waging war against fast American clippers.

The burning of the U.S.S. *Missouri* in 1843 at Gibraltar stirred Congress to interest in American ocean shipping and it pledged the government to pay $385,000 yearly to Edward K. Collins, conditional upon his building and operating four steamships of 2,000 tons, to make 20 trips annually to Liverpool. It was provided that steamships of the Collins Line might be used as men-of-war in case of hostilities with a foreign power.

William H. Brown, New York, under George Steers' direction, built *Arctic,* 2,856 tons, and *Atlantic,* 2,845 tons. Brown & Bell built *Baltic,* 2,723 tons, and *Pacific,* 2,707 tons. The Allaire Works and the Novelty Iron Works built the engines, designed by Charles W. Copeland. These four great ships won the world's admiration. Their average time to Liverpool was 10 days and 21 hours and for the eastward trip 11 days and 3 hours. They were almost a full day faster than the Cunarders. English travelers preferred Collins' liners. From January to November, 1852, the Collins Line carried 4,306 passengers against 2,969 by the Cunard Company, and freight rates were cut in half.

Cunard recognized that powerful opposition was being built and it planned new vessels. The Collins Line subsidy was increased to $858,000 on condition that speed be increased. With the subsidy paid to the New York, Bremen & Havre Line, $400,000 and a mail subsidy of $489,600 for the New York, New Orleans, Panama and California service the United States Government was paying $1,840,000 annual steamship subsidies in 1852.

At this juncture a new and fatal spirit controlled Washington. The South, in the ascendant in Congress, joined with the agricultural element in demanding reversal of national policy towards the merchant marine. After four years' debate (1853-57) all subsidy contracts were canceled, leaving millions of capital in ships to work out the best settlement from the sale of property and ruin of business.

While the United States was undermining its own property on the sea, Great Britain energetically fostered new lines, and to a single line paid $1,350,000. The Collins Line subsidy was cut to $385,000

in 1856 and the same year *Pacific* was lost with all its passengers, crew and cargo and never a trace to mark its going.

England put out a big fleet of steamships and backed them financially. America had but five steamers left in 1858 of 11,000 tons, trading with Europe, while 31 foreign steamers of 57,000 tons traded with United States. England had 156 steamers of 210,000 tons and American ocean and coast business then included but 31

Pacific, a Collins liner, lost at sea

ships of 71,000 tons. England's subsidies had mounted to $5,350,000 annually. The American cancellation policy not only affected steam, but sail too, and the fine sail packets retired from the field.

The proportion of our total commerce carried in American bottoms after 1858 declined immediately from 76 per cent to 60 per cent, and the English proportion increased from 24 per cent to 34 per cent. The detailed figures were:

Year	Imports American Vessels	Imports Foreign Vessels	Exports American Vessels	Exports Foreign Vessels
1855	$202,234,000	$ 59,223,000	$203,250,000	$ 71,905,000
1856	249,972,000	64,223,000	232,295,000	94,688,000
1857	259,116,000	101,773,000	251,214,000	111,745,000
1858	203,700,000	78,913,000	243,490,000	81,144,000
1859	216,123,000	122,644,000	249,617,000	107,171,000
1860	228,164,000	134,001,000	279,084,000	121,038,000
1877	151,826,000	329,565,000	164,826,000	520,354,000

During the Civil War steamships of Great Britain gained steadily as carriers of American products. A Boston company made a spirited but fruitless effort to compete with the British in 1866 and a Baltimore venture met the same fate.

The Civil War had large part in the decay of our shipping. The fact that wood was plentiful in America and scarce in England drove England to iron hulls, since iron was common in England; iron being more costly in America, wood continued to be used, though America had done much to introduce iron ships. The side lever beam engine, driving paddle wheels, reliable and simple in its slow revolutions, and highly developed, was clung to over-long in America, while England tackled the problems of higher engine speed and propeller drive. America's capital and enthusiasm were directed to railroad building. The East did not give up the struggle without protests.

The New York *Tribune* painted a gloomy picture, August, 1865:

> "The total carrying trade performed by steam vessels between this country and Europe is now in the hands of eight regular lines, running about 50 vessels, not one of which carries the American flag. The old Cunard Line, most prudently and hence successfully managed from the start, has seen the wreck of its old rival, the Collins Line, and has steadily increased in business until it runs regularly six vessels, though owning eight or ten. The Inman, a young line, started with the main interest of furnishing to the better class of emigrants accommodations superior to those of sailing vessels, has built boat after boat, until it now has 13 completed and dispatches two per week from this port to Queenstown and Liverpool.
>
> "The National—another British company—has eight vessels and from an irregular line is now dispatching a regular

vessel weekly. Then there is the French Line to Havre, at present a monthly line, but pushing new vessels to completion; the Glasgow Line, devoted largely to carrying of immigrants; the Quebec and Portland Line; and the two German lines, one to Hamburg and one to Bremen, both running semi-monthly vessels.

Adriatic, largest of the famous Collins liners

"While of the seven splendid American ships which formerly crossed the ocean, the *Arctic* and *Pacific* are beneath it; *Adriatic* passed into foreign hands; *Baltic, Atlantic, Arago* and *Fulton* have been in transportation service during the war.

"A notable fact, suggested by looking over the lines now in operation, is the remarkable increase in screw vessels. Excepting the French Line to Havre, and the older of the Cunard vessels, not more than three of the whole 50 steamers now crossing the Atlantic are driven by side wheels, and nearly every one now constructed for transatlantic service now adopts the screw."

With the decline in American shipping the business of building ships fell away and had it not been for the Government requirements during the Civil War, together with replacement of many steamers of various kinds that were sunk, burned or lost during this period, the industry would have been practically wiped out.

The discovery of petroleum in large quantities also affected American shipping. The whaling fleets had survived as training schools for American sailors, the only remaining stronghold of native skill and industry on the ocean. The quick introduction of mineral oils put an end to profits in the northern fisheries. Once we had 700 vessels engaged in the whaling trade, carrying 17,000 seamen to the fishing banks. From 198,000 tons in 1858 the trade dwindled to 39,000 tons in 1876 and thereafter the business declined.

England improved opportunities for acquiring the world's sea trade. Having an effective tool in the iron steamship, and by legislative aids and encouragements, she plied her advantage, offering large bounties to the swiftest steamers, ostensibly for carrying mails, but in reality for transporting foreign buyers to her shores more safely, speedily and luxuriously than they could travel by any other lines leaving their native ports.

The outbreak of the Civil War in 1861 marks an epoch in American shipping. The first shot upon Fort Sumter sounded the death knell of American maritime activity for several decades. Secession presented to England the opportunity of securing a new and valuable market for manufactures in exchange for cotton and breadstuffs of the South. *Alabama* and *Shenandoah* were sent forth to scatter and devour the American wooden fleet, and preyed upon defenseless coasts under guise of neutrality.

Without a navy for its proper protection 104,000 tons of American shipping was annihilated and four times this amount driven out of service. The Government took 1,175,000 tons of shipping for war and public uses. The country was so weak financially that the remnant of commercial marine was forced to pay extortionate rates of insurance to English companies, to the exclusion of possible profit. England reaped rich rewards abroad and developed resources and constructed ships while America was harassed and handicapped and struggled with domestic strife and foreign commercial oppression, until America was hopelessly distanced.

Having withdrawn or sunk millions of invested capital in ships,

and the necessities of supplying war materials and enginery having stimulated home manufacturing industries, America at the close of the Civil War found itself more interested in the development and extension of railways and its mills and factories. In the eagerness to promote national prosperity America fostered two of its elements, agriculture and manufacture, to the almost utter exclusion of the third and no less essential source—commerce.

Through this private reaction, coupled with persistent inaction by Congress, the merchant marine was allowed to melt away. Not content with abandoning fleets to competitors, the Government levied a special war tax of 2½ per cent on the construction of ships and their machinery, above and beyond all other taxes already imposed. This was in direct contrast with England's generous policy relieving and encouraging shipping.

Commander Chadwick of the Navy considered the causes of American failure to hold position in the struggle for the world's carrying trade. He blamed the Collins Line for "extravagance in construction and management." He accounted for the great increase in enrolled American tonnage by the fact that the states were not then covered by railways, and for subsequent failure to hold a proud position, by our conservatism. Americans closed their eyes to what Englishmen, Germans and Frenchmen regarded as a truism—the the superiority of iron over wood, and the screw to the paddle wheel.

Even after the Civil War had proved our capacity to build great ironclads, the Pacific Mail sent out four great wooden ships, and wooden ships if provided with screw propellers needed more frequent repair than side-wheelers. Commander Chadwick reported our navigation laws to be faulty. "But the great cause, and the overwhelming cause," he said, "was the opening up of the vast region lying west of the earlier-formed states; the building of our gigantic system of railway; the exploitation, in a word, of the great inter domain of the possibilities of which, preceding 1850, we were only dimly conscious, and so much of which had only just been added by the results of the Mexican War."

The steam tonnage of the United States and the British Empire, including colonies, beginning in the year when ocean steam navigation had been fairly put upon its feet, is shown in comparative table. American tonnage is divided into "oversea," or that which traded beyond United States waters, and "enrolled," which includes tonnage in home waters.

	United States			British Empire
Year	Oversea	Enrolled	Total	Total
1838	2,791	190,632	193,423	82,716
1840	4,155	198,184	202,339	95,807
1842	4,701	224,960	220,681	118,930
1844	6,909	265,270	272,179	125,675
1846	6,287	341,606	347,893	144,784
1848	16,068	411,823	427,891	168,078
1850	44,942	481,005	525,947	187,631
1852	79,704	563,536	643,240	227,306
1854	95,036	581,571	676,607	326,484
1855	115,945			
1856	89,715	583,362	673,077	417,717
1858	78,027	651,363	729,390	488,415
1860	97,296	770,641	867,937	500,144

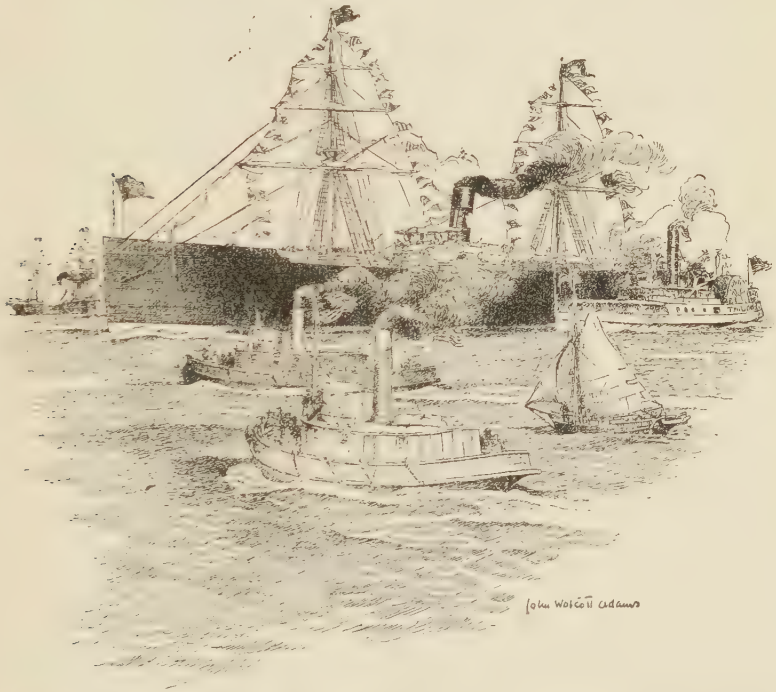
It is surprising that so little effort was made to regain American shipping position, but the impoverished condition, after the Civil War, when 800,000 tons of American shipping sought foreign registry and was not permitted to return, and the excellent service supplied by other nations tended to complacency. Sea-coast states growled dissatisfaction which was silenced by the votes of western and southern states.

The Pacific Mail added *City of Pekin* and *City of Tokio,* four-masted iron steamships, built by John Roach & Son at Chester, Pa., in 1874, to run between San Francisco and Japan. They were designed by Edward Faron, and when built were the biggest ships to be laid down, *Great Eastern* alone excepted. They measured 5,079 gross tons, and 3,128 net tonnage, 396.6 feet length, 47.4 feet beam, 19.6 feet depth of hold and 36.2 feet to spar deck. The draught was 22 feet.

Two vertical compound engines had cylinders 51 and 88 inches diameters by 54 inches stroke, and 4,000 horse power. Ten Scotch type iron boilers were 10 feet length by 13 feet diameter, having 595 square feet of grate surface and 17,850 square feet of fire surface. They consumed 75 tons of coal daily and carried 60 lbs. working pressure. The four-bladed wheels were 20 feet 4 inches diameter by 30 feet pitch.

City of Pekin was launched March 18, 1874, in the presence of 30,000 people. On the trial trip President U. S. Grant, Vice President Wilson, the cabinet officers, senators, congressmen and digni-

taries lent their presence. When the vessel had proceeded beyond the three-mile limit the country was actually without an executive. *City of Pekin* made 15¼ knots. *City of Tokio* was completed a month later. They made San Francisco and Yokohama, 4,750 miles, in 15 days and 9 hours, and carried 86 first, 30 second cabin and 1,407 steerage passengers. *City of Tokio* was wrecked at Yokohama.



The Pennsylvania Railroad lent its credit to build four ocean liners

The Pennsylvania Railroad lent its credit in 1872 to the building of four liners, endorsing the bonds of the new American Line to Liverpool. Cramp's built *Pennsylvania, Ohio, Indiana* and *Illinois,* each 3,016 tons, which cost $2,400,000. It was the building of these fine steamers that made Cramp's reputation.

They were designed long and narrow with fine bows and slightly hollowed water lines, 355 feet length, 43 feet beam, 35 feet depth of hold, with three decks and two masts. The four were fitted with

twin compound engines, 1,800 horse power with cylinders 57 and 90 inches diameters by 4 feet stroke, turning wheels 16 feet diameter. They were completed in 1873 and made 13 knots, 9½ days Cape Henlopen to Queenstown and returning in 10 days, carrying 100 cabin and 800 steerage passengers and 1,740 tons of freight.

Though strongly supported they ran some years at a loss, competing with subsidized foreign ships. Early in 1887 the four ships were taken into the International Navigation Company. The engines were rebuilt to increase their speed to 14 knots and the accommodations rebuilt after the plan of *Westernland* and *Noordland,* newer ships.

The International Navigation Company took over the Inman Line, organized in 1850, and the Red Star Line, and it now owned the four steamers built on the credit of the Pennsylvania Railroad. It added *City of Paris* and *City of New York* to the Inman Line, while the Red Star fleet included *Friesland,* 6,700 tons; *Westernland,* 6,000 tons; *Noordland,* 5,500 tons; *Waesland,* 5,000 tons; *Belgenland,* 4,000 tons; *Rhyland,* 4,000 tons; *Pennland,* 4,000 tons; *Switzerland,* 3,000 tons; *Nederland,* 3,000 tons; *Vaderland,* 3,000 tons, and *Zeeland,* 3,000 tons.

In addition to *City of Paris* and *City of New York* the Inman Line operated *City of Chicago,* 5,202 tons; *City of Berlin,* 5,491 tons; *City of Richmond,* 4,780 tons; *City of Chester,* 4,770 tons, and *City of Montreal,* 4,500 tons.

American ocean shipping gave promise of importance when Congress passed an act July, 1892, permitting *City of Paris* and *City of New York* transfer to American registry conditional upon the owners building twice the transferred tonnage, in American yards.

City of Paris and *City of New York* were built in Glasgow in 1888 and 1889 by J. & G. Thompson and were 525 feet length, 63.6 feet beam and 42 feet depth of hold, being registered 10,500 tons and having twin screws driven by triple expansion engines with steam jackets, having cylinders 45, 71 and 113 inches diameters by 5 feet stroke. Steam was supplied in 9 boilers having 6 furnaces; 1,270 square feet of grate surface and 50,040 square feet heating surface, and 150 lbs. steam pressure. Their average speed was 20 knots, consuming 328 tons of coal daily and producing 18,000 horse power, or 1.7 lbs. coal per horse power hour.

When they first appeared they were distinguished with three tall stacks, afterwards changed to two funnels when they became *New York* and *Paris.* None of the steamers which followed them equaled them in smart appearance, for their beautiful overhanging clipper

bows were unusual in steamships, which commonly held to plumb stems.

To meet the conditions of the act of Congress *St. Louis* and *St. Paul* were built at Cramp's, Philadelphia, in 1894 and '95, magnificent liners 554 feet length, 65 feet beam, 42 feet depth of hold and 15,600 tons, propelled by two quadruple expansion engines. Steam was supplied by six double end boilers 20 feet long by 12 feet diameter with 39 furnaces, 830 square feet of grate surface and 30,000 square feet heating surface. They turned twin screws of three blades. In the Spanish War *St. Louis* and *St. Paul* were scout cruisers and in the World War were troop transports.

St. Paul went out of service following the return of American troops and was sold in Germany for scrap in 1923, being too costly for competitive operation, though still a fine ship when 28 years old. Scrap metal bringing high prices in Germany and labor prices being low *St. Paul* was towed to Hamburg by the Dutch ocean tug *Jacob Van Keemskerck* from Rotterdam.

For many years *St. Paul, St. Louis, New York* and *Paris* of the American Line on the Atlantic, the Pacific Mail steamers and James J. Hill's *Minnesota* and *North Dakota,* built at Groton, Conn., maintained the American flag on the seas. They were not replaced as they grew older and became less important competition for the newer English, German and French liners until the World War brought so many changes in shipping.

CHAPTER XIX

New York's Early Domination of the Ship and Engine Building Field

THE marine steam engine industry early centered in New York, and great works built where power equipment was turned out in increasing numbers. A large proportion of the total engines built in the world were completed along the East River and North River shores.

This great activity was lost to New York and allowed to pass out of the commercial life of the city. Thousands of machinists were engaged in engine building, but the number dwindled and the forces went, neither men nor machines being replaced when well-worn. Only the Dry Dock Savings Bank in the Bowery marks the passing of Manhattan's ship and engine building domination. Other American cities succeeded to the position and prestige which New York had earned and what had been a splendidly paid activity in just a few years, ceased to exist. How very big the engine building industry had become in the early '50's is told by a commentor of the day:

> "It has been truly remarked, that as the city of New York is sustained almost entirely by its commerce, and as this commerce is becoming every year more and more dependent for its prosperity and progress upon the power of the enormous engines by which its most important functions are now performed, the establishments where these engines are invented, made and fitted into ships, which they are destined to propel, constitute really the heart of the metropolis; that the splendor and fashion of Fifth Avenue, and of Union Square, and the brilliancy and ceaseless movement of Broadway, are mere incidents and ornaments of the structure; while these establishments, and those of kindred character and functions, form the foundation on which the whole of the vast edifice reposes."

The first American vessel, *Onrust,* 44½ feet length, 11½ feet beam and 16 tons, was built by Captain Adriaen Block, at Man-

hattan River in 1614, to replace a ship from Holland lost by fire. In this vessel Captain Hendrickson discovered the Schuylkill River in 1616, and explored the Atlantic coast from Nova Scotia to the Virginia Capes. Captain Block's name was given to Block Island at the east end of Long Island Sound.

The earliest ships built in New York were laid down on East River between Wall Street and Franklin Square, then known as "De Smit's Valey" and afterwards as "Vly" or "Fly," grants of land being made in 1642 and shipbuilding being the industry of this section in 1664 when the Dutch capitulated to the English.

Among early Dutch shipbuilders were Lambert Huybertson, Abraham Lambersen, John Adriance, Pieter Harmenzen, Mol, Stoefel Elsworth, Joost Carelzen and Pieter Jansen whose residences and shipyards were all outside the water gates or city palisades at Wall Street. Within the enclosure lived Dirck Jansen Vandeventer, a shipbuilder. A prominent merchant of New York, towards the close of the seventeenth century, was Rip Van Dam, who built many vessels, which were launched from the rear of the present Trinity Churchyard.

According to Lyne's plan of New York, made from surveys in 1728, the river front from Beekman Street to the northern limits of the city, near the present Catherine Street, was principally occupied by the yards and docks of shipbuilders, while there were other yards at different points on the North and East Rivers. Dally, Walton, French, Wessel, Vanase and Bennett were names of shipbuilders, showing that the business had gotten into English hands. Later shipbuilding was carried on between Beekman Street and Burling Slip, while Hunt's shipyard is shown on Lyne's chart at the foot of Whitehall Street.

With this background of shipbuilding, the reputation of New York was raised through the advent of steam when the talents of Charles Brownne, Henry Eckford, John Stevens, Chancellor Livingston and Robert Fulton gave the first practical demonstrations of steam navigation. When Fulton had ushered in the era of steamboats Charles Brownne was the leading shipbuilder and *Clermont* was built at his yard. So, too, were succeeding Fulton boats, *Car of Neptune, Paragon, Fire Fly, Lady Richmond* and *Olive Branch.* Henry Eckford was interested in the Bridgeport line of steamboats and became naval architect for the Sultan of Turkey.

Robert McQueen built the engines for *Hope* and *Perseverance* in 1811. James P. Allaire succeeded to Fulton's engine building business and built power equipment for *Chancellor Livingtow, United States*

and *James Kent,* while *Constitution* and *Constellation's* engines were built by J. Birkbeck. The hulls were built by Brown & Bell. Robert McQueen and John Youle furnished iron castings for Fulton's engines and Allaire supplied brass castings. Thus they were brought to early contact with Fulton's first steam engine building.

Upon the death of Fulton in 1815, Allaire obtained a short lease of Fulton's shop and tools and took Charles Stoudinger as partner. They built the engine for *Chancellor Livingston* which developed eight miles' speed, having cylinder 40 inches diameter by 4 feet stroke. Stoudinger was a far-visioned engineer who predicted that the cumbersome machinery then used in steamboats would be simplified; that the running time from New York to Albany would be less than eight hours, and that steam vessels would cross the Atlantic within eleven days.

It required a year to complete the engine and boiler for *Chancellor Livingston,* about the close of which Stoudinger died. Allaire moved the works from Jersey City to 466 Cherry Street, New York, where he had been located since 1804 as a brass founder. This was the first location of the Allaire Works in New York, which began to build engines for *North Carolina, South Carolina* and *Robert Fulton,* and Allaire's works repaired *Savannah's* engines. Engines for *North River, Fire Fly* and *Chief Justice Marshall* were supplied with copper boilers as it was not believed that iron had requisite strength.

Wood was universally used as fuel for generating steam, and "with the flames extending out of the smoke stacks of the steamboats at night, as they passed up and down the river, they were the wonder and awe of the ignorant and superstitious who beheld them." Anthracite coal was being developed to an extent in Pennsylvania and Mr. Allaire believed it was possible to use coal fuel for making steam. Most of his steamboat associates opposed his theories, but he prevailed upon them to allow him to experiment. Suitable grate bars were installed in the furnace of *Car of Neptune.*

So great was the prejudice that the regular firemen refused to burn the "black stone," declaring it impossible. Allaire took some of his best workmen from his shop to assist him and he was himself chief fireman. After the greatest effort he succeeded in getting the boat to Albany in 18 hours. Notwithstanding this trial Allaire's associates were too conservative to aid in developing a better method of burning coal, and steamboats continued to light the heavens, wood being deemed the only practical fuel.

James P. Allaire adopted the Woolf double cylinder engine, 1825-

28, for the steamboats *Henry Eckford, Sun, Commerce, Swiftsure, Post Boy* and *Pilot Boy*. They were built on the square engine design, the low pressure engine being connected to what was before the flywheel shaft, and geared to the high pressure engine. The paddle shafts had cranks and their pins connected them to the crank wheels on the center shaft. The D-slide valve was used on the engines and the high pressure steam of 125 to 150 lbs. generated in Redfield boilers, caused trouble and delay in stopping and starting. The teeth of the gear wheels sometimes broke and they went out of use. Flywheels were also dispensed with on square engines and poppet valves and a cut-off were applied, continuing many years in use.

The steam jacket of Watt was seldom adopted, but high steam chimneys on boilers, first introduced by James P. Allaire, were equivalent when steam not over 40 lbs. was used, then the practice, and the chimney acted as a separator on the water in suspension in the steam, by gravity, and it also superheated the steam to a moderate degree. At this period the fly valve, placed close to the steam chest and operated by a cam motion, was used as an expansion valve. Such an engine, compared to what had been used, developed a great amount of power with a good degree of economy and with reduced engine weight.

Allaire continued the business on his own account until 1842, giving personal attention to details and establishing a record for fine workmanship, when he incorporated his business, with $300,000 capital, continuing as president until 1850 when he retired.

He was succeeded in the active management by T. F. Secor, formerly of the Morgan Iron Works. Thereafter engines were built for *Baltic, Pacific, Illinois* and *Panama,* ocean-going steamships, and for river and coast steamboats *Isaac Newton, Bay State* and *Empire State* and engines for the lake boats *Western World, Metropolis* and *Niagara* and *America,* which ran on Lake Champlain.

Allaire Works also built the largest beam engines then constructed for *Vanderbilt,* having two 90 inches diameter cylinders, 12 feet stroke, and engines for *Hu Quang, Po Yang, Kin Kiang* and others in service in China. American steamboats were favorite in Chinese waters. An official Chinese overland trade report made to London said:

> "Steamboat builders in England, and Scotland, too, are certainly the most adroit 'shavers' living. They turn out so many miserable botches, that really we think a very

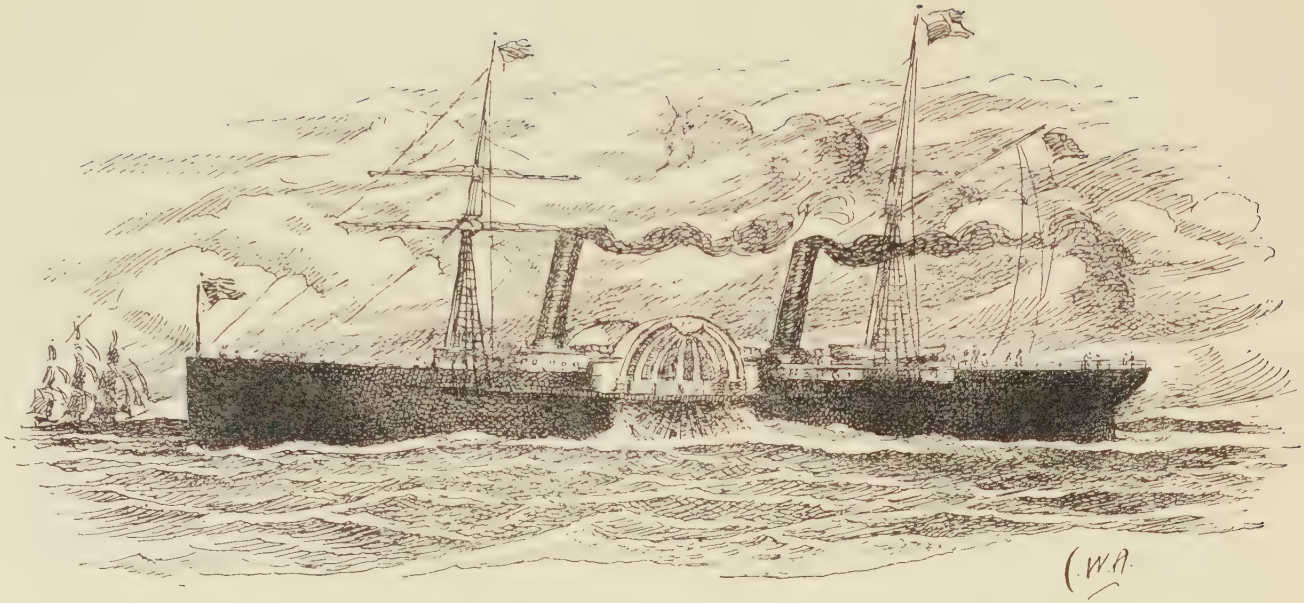
great majority of the community would, were they 'going into steam,' resort to the United States. As far as river navigation is concerned, our attempts to compete with Jonathan are simply absurd, as those who own English river steamers here at present, must, ere this, have discovered to their cost. But, even in sea-going steamers, if 'the proof of the pudding be in the eating,' we should wish to know where the British steamers are, which are as swift, as safe, as commodious, as serviceable or as economical in expenditure of fuel as *Yangtse* or *Peiho?*

"We maintain that every boat sent out here from England or Scotland, on China account, whether for coast or river, has either been a miserable failure or a glutton for fuel. We do not make one exception. We do not like to mention names as we are adverse to depreciate people's property, but we confidentially leave it to every unfortunate sufferer to say whether or not we are correct in this statement.

"We, of course, except the P. & O. Company, as they seem to have a secret plan of constructing boilers, which makes them last as long as the boat; that is, for an indefinite period. We declare one never hears of anything occurring to one of the company's boilers, nor any of their boats being laid up to have a new one or the old one mended.

"We will take, for instance, *Chevy Chase,* which vessel, we believe, cost on the Clyde about three times the cost of *Yangtse* in New York. Now *Yangtse* has been running nearly three years hard upon the coast, making unprecedentedly swift passages and never was docked until the other day. *Chevy Chase* will not carry so much as *Yangtse,* nor has she as good accommodation; but she burns twice as much coal, and in a race between this port and Shanghai would be sparingly backed. She is about as strong again and as heavy again as there is the slightest occasion for; and has clearly twice as much power as she can bear, for the weight of it sinks her.

"She is a very shallow craft, and her deck is so near the bottom, which contains an enormous mass of iron, that compasses will not act, and it becomes dangerous to run her in thick weather. She will bring grief to the hearth, but never grist to the mill; and the sooner she is altered



Yangtse, built at the foot of East 42nd Street, New York, for China trade

the better. She should be made into a screw propeller, and a suitable vessel built for the valuable and powerful machinery now fitted.

"American boilers, though not so durable as ours, are much better adapted to economy of fuel. Coal in the United States costs as many dollars as it does shillings in England. Economy of fuel is, therefore, more studied than with us, space being sacrificed. Our short tubular boilers send half the heat into the chimney, while the long flue boilers of the Americans absorb the heat pretty much in making steam. The difference is very great, and well worth the subject of an inquiry."

THE NOVELTY WORKS

Rev. Eliphalet Nott, President of Union College, Schenectady, who had succeeded in burning anthracite coal to heat houses, invented a boiler, about 1833, with appurtenances for applying coal fuel to the generation of steam. He built a boat to test its merits, installing his improved boiler and engine. The boat embraced so much that was new that it was named *Novelty*.

Dr. Nott required special arrangements for creation and repair of his engine and purchased Burnt Hill Point, East River, a small wharf and small farm buildings. One of *Novelty's* engines was built within the limited mechanical resources then installed. From time to time power and tools were added. The place was known in the neighborhood as the "Novelty Works," and thus originated the distinctive name by which it was long known in the engineering world.

The business was conducted as H. Nott & Company. Nathan Bliss, who had recommended the use of the horizontal style engine for the boat, was superintendent. Ezra K. Dodd was foreman and later chief engineer of *Novelty*. Subsequently, Thomas B. Stillman, Robert M. Stratton and C. St. John Seymour purchased the premises and conducted the business under the name Ward Stillman & Company.

Under the new ownership engines were built for two ocean liners, *Lion* and *Eagle,* constructed for the Spanish government. J. D. Ward retired in 1841 and the business continued as Stillman & Company. Horatio Allen, importer of the first locomotive, came into the firm in 1842, the style being then Stillman Allen & Company, and in 1855 the business was incorporated as the Novelty Iron

Works of New York with $300,000 capital. The early neighborhood identification now became the corporate title.

Entrance to the works was on East 12th Street, opposite Dry Dock Street, and here was the porter's lodge, head offices, draughting rooms, and beyond the machine shops, foundry, crane, shears, etc. The foundry was equipped for heavy work, and cast the bed plates for the engine of *Atlantic,* weighing 37 tons and *Arctic* weighing 60 tons. The great cylinder for the Fall River liner *Metropolis* was cast in 1854, being 105 inches diameter and 14 feet length, with 12 feet stroke of piston. Twenty-two persons sat down to lunch inside this cylinder, with room to spare, and a horse and chaise were driven through it.

The side lever engines of the Collins Line steamers *Atlantic, Arctic, Pacific* and *Baltic* were built in 1849-50, the two former at the Novelty Works and the latter two at the Allaire Works. C. W. Copeland designed the engines and the boilers were designed by John Faron, chief engineer of the line. There were two engines in each ship, with cylinders 95 inches diameter by 9 feet stroke in *Atlantic* and *Pacific* and 10 feet stroke in *Arctic* and *Baltic.* The boilers had two tiers of furnaces and vertical water tubes back of them, and the four boilers connected to one stack. Steam pressure was 14 lbs., with Stevens' cut-off on *Arctic* and Sickles' on *Baltic* at 4 feet and 4½ feet respectively.

Using salt water, scale in tubes became troublesome and the unequal expansion of the front and back tubes caused them to leak, with heavy expense for cleaning and repair. Unequal expansion of the engine parts due to the design of the bracing caused breaks, yet the engines did good service and the ships made good voyages with reasonable fuel economy.

Adriatic was the largest sea-going side-wheel steamer, except *Great Eastern,* being 350 feet length, 50 feet beam and 5,000 tons. *Adriatic* was modeled and built by George Steers, "a perfect vessel in appearance, appointments and speed." *Adriatic* cost more than $1,000,000. The two oscillating engines, built by the Novelty Works, had cylinders 101 inches diameter by 12 feet stroke and carried 25 lbs. steam. The paddles were 40 feet diameter, with floats 12 feet length and 3 feet wide and the eight vertical tubular boilers had 30,758 square feet of heating surface.

The Novelty Works blacksmith shop ran 30 fires, while 20 departments were organized with foremen and working forces, numbering more than 1,000 men. The production of the works ran above $1,500,000 in the early '50's.

PHŒNIX FOUNDRY

Phœnix Foundry came into being in 1835, located in West Street, between Hubert and Vestry, conducted by James Cunningham, an engineer of unusual skill, who contributed largely to the development of river steamer engines. Cunningham was the first to employ the cut-off of steam by the detachment of the inlet steam valve, an invention of Peter Hogg, then an apprentice. Previous to 1839 independent cut-offs in the steam pipes were used.

The Phœnix Foundry was taken over by Peter Hogg and Cornelius Delamater in 1842, styled Hogg & Delamater, and in 1850 the firm moved to the foot of West 13th and 14th Streets, the business now being known as the Delamater Iron Works. The engines of the caloric ship *Ericsson* were constructed here, having eight cylinders, four of which measured 168 inches, and four 120 inches, being of greater diameter than had ever been cast, finished and put in a ship.

Mr. Hogg retired in 1855, Delamater continuing as sole proprietor. The works prospered and gained a fine reputation for careful workmanship. The machinery for the original *Monitor* was built at this yard, and the engine, hull and turrets of the ironclad *Dictator,* 320 feet length, 50 feet beam and 20 feet depth of hold. The steam equipment and turrets for *Kalamazoo, Passaconomy* and *Passaic,* the latter a monitor, were built at this works and a number of iron steamers as *Matanzas.*

Captain John Ericsson used the Delamater Iron Works for the development of his revolutionary ideas of vessel building and naval ship practice which did so much to bring the Rebellion to close. The Delamater Works, too, frequently employed 1,000 men with a payroll reaching $12,000 weekly average, and it was the largest ship and engine building business owned and controlled by one man.

The business was succeeded to by Fletcher Harrison & Company, who had occupied the old Phœnix shop in Vestry Street, and later by W. & A. Fletcher Company of Hoboken, where the same fine reputation for splendid workmanship continues and where notable power plants for vessels have been built, including the famous *Yale* and *Harvard.*

MORGAN IRON WORKS

The Morgan Iron Works began in 1838 when T. F. Secor, Charles Morgan and William H. Caulkin, trading as T. F. Secor

& Company leased eight lots at the foot of 9th Street, East River, and organized for engine building. This was early in the career of Morgan who later became so great a factor in coastwise shipping and railroading.

The first engines built were for the steamer *Savannah* and the steamboat *Troy* of the Troy Line. The works were destroyed by fire in 1841 and rebuilt, and had grown to such extent by 1846 that the block bounded by 9th Street and 10th Street, Avenue D and East River, was purchased and a half block added on the south side of 9th Street where the offices, draughting rooms, etc., were located. Amongst the large engines built were those for *New World, Crescent City* and *Empire City.*

New World's engine was designed by Edward Tothill. The cylinder was 76 inches diameter by 15 feet stroke, turning paddle wheels 45 feet diameter by 12 feet length. The boilers were return flue, 45 lbs. steam pressure with Stevens' cut-off gear. The boilers had fan blasts under grates and consumed 9,000 lbs. of anthracite coal hourly with average of 17 revolutions per minute. When this engine was placed in *St. John* in 1863 the cylinder was increased to 84 inches diameter.

George W. Quintard became sole proprietor in 1850. Under his direction steam hammers, floating derricks, new docks and heaviest machine shop equipment were installed. Some of the largest river and ocean-going merchant and war vessels were engined by Quintard. Engines for *Thomas Powell* and *Reindeer* were built by him and engines for the steamers:

	Cylinder Diameter	Piston Stroke
Golden Age	83 inches	12 feet
Golden Gate	83 "	12 "
Ocean Queen	90 "	12 "
Empire City	83 "	9 "
Golden Rule	81 "	12 "
Mississippi	81 "	11 "
California	72 "	11 "
San Francisco	76 "	12 "
United States	60 "	12 "
Fulton	65 "	11 "
Charles Morgan	60 "	11 "
Herman Livingston	60 "	11 "
General Barnes	60 "	11 "
Brother Jonathan	72 "	11 "

For the Government the Morgan Iron Works built the double-turreted monitor *Onondaga* with four main engines, having cylinders 30 inches diameter by 18 feet stroke, a formidable addition to the ironclad fleet of the Civil War. The list included, too, engines for *Ammonosuc, Wachusett, Seminole* and *Ticonderoga.* The sloop-of-war *Idaho* was powered by the Morgan works and the Italian frigate *Re Don Luige De Portugallo,* the hull of which was built at the near-by yard of William H. Webb.

At the top of its activity the Morgan Iron Works occupied ten city blocks and employed 1,000 men.

JOHN ROACH'S ETNA IRON WORKS

The Etna Iron Works was important with other large steam engine building enterprises when New York led the world in steam. John Roach & Son were proprietors, the beginning being a small foundry purchased from John Glass. Roach started with $200 capital in 1852. As he was able he devoted profits to preparation for a big works. When the time came to build, Roach hired on as a mechanic in competitors' shops and sent a confidential agent to study conditions in Europe.

Roach's force in 1860 numbered from 900 to 1,500 men, and he provided the biggest tools. He could bore a cylinder 112 inches diameter and work was crowded through his plant so fast that progressive partial payments came close upon each other. T. Main, a well-known engine designer, was superintendent and a strong organization of responsible foremen made it a well-disciplined shop.

Engines for *Bristol* and *Providence* were built by Roach for the Merchants' Steamship Company with cylinders 110 inches diameter, and for *Rising Star, Warrior* and the monitor *Winooski,* with double turrets, and the steam frigate *Nashaminy.* Roach's old Etna yard built engines for the steam ram *Dunderberg,* with cylinders 112 inches diameter by 12 feet stroke.

The fame of John Roach's shipbuilding plant at Chester, Pa., came to overshadow his earlier engine building in New York. American manufacture holds no more romantic figure than John Roach, who began as a foundry puddler and won a position of world importance. Roach contracted to build machinery when he had never built an engine, knew little of engineering, and was an iron molder with a small foundry making castings for house and bridge work.

The patronage of William H. Webb greatly helped his credit with merchants and at the banks, but his credit was chiefly based upon his

engineering success, and Roach's great business was largely on a credit basis.

WEST POINT FOUNDRY

Following the Revolution and War of 1812 the country's need for an arsenal where battle machinery could be built was appreciated, and in 1817 Gouveneur Kemble organized a plant at Cold Spring, above and on the opposite shore of the Hudson from West Point, with assurances of support from the Government. The plant cost $90,000 and was designed to cast and bore cannon for the army and navy. The location was chosen from desire of the Government that its principal arsenal should not be near the sea coast and exposed to attack, while a stream promised sufficient water power to bore cannon.

At the expiration of the Association's charter the works was conducted as a private establishment by Kemble, who leased the shares of the others. Under his direction locomotives were built for pioneer railroads. Kemble designed the West Point Foundry engines for early steamboats. R. P. Parrott came to the business in 1836, a graduate of West Point Military Academy and a Captain of Ordnance, trained in ballistics. Captain Parrott succeeded to Kemble's proprietorship in 1851, continuing the business through the '70's in association with Gouveneur Paulding.

The Government did not order war products in such quantity as to make even production or permit steady employment. General casting, steam engines and boilers were added. West Point Foundry built engines for the steamboats *Victory,* in 1827; *De Witt Clinton,* 1828; *Erie,* 1832; *Champlain,* 1832; *Highlander,* 1835; *Swallow,* 1836; *Rochester,* 1836; *Utica,* 1837; *Troy,* 1840; U.S.S. *Missouri,* and the engines for *Merrimac* were built at Cold Spring.

The second great improvement in American engines, the application of the principle of expansion, was known to Cornish engineers, but Adam Hall, then of the West Point Foundry, is believed to be the first to use high pressure steam on beam engines, cutting off the supply at ¾, ½ or even ¼ of the stroke, saving fuel and increasing velocity. Adam Hall found by experiment and established by practice that more work was done at less expense by cutting off at ¼ than by cutting off at ½ stroke, the steam pressure being increased in proportion. This method of working expansively with a long stroke engine and large balanced valves and passages allowed a high velocity of piston, 600 feet a minute being common.

The West Point Foundry maintained erecting shops at the foot of Beach Street in New York and here "Stourbridge Lion," the first locomotive imported from England for the Delaware & Hudson Canal and Railroad Company, was set up in 1829. West Point Foundry built the first locomotive in America, "Good Friend," in 1830, for the Charleston and Hamburg Railroad (later South Carolina Railroad). The second locomotive, "West Point," was built in 1831, and "De Witt Clinton," first to run in New York State, the same year.

Captain Parrott introduced the line of Parrott guns in 1860 at his own cost, but with the beginning of the Civil War they were taken by the Government and order placed for 3,000 guns. With the lessening of the near-by ore supply, West Point Foundry could not compete with cities of the near west.

THE SHIPBUILDERS OF NEW YORK

New York shipbuilders shared with the engine building firms a high position in commerce earned through leadership in steam. Near the engine building plants were shipyards of such important size and strong position that it would seem their life and usefulness would endure and be remembered through hundreds of years.

The industry was wrecked when the leaders went, and Congresses imposed restrictions and denied encouragements. New York shipbuilding died following the Civil War, which like other deaths was soon forgotten. The demise is traceable to the indifference of the great interior states, and to impoverished conditions following the Civil War. A public, conscious of the enormity of the losses, would not have permitted such commercial blundering.

The industry was raided for leaders in the newer railroad transportation, which weakened shipping and took away its capital, and shipbuilders, grown weary of governmental indifference, turned to other opportunities from the ruin of a great New York activity.

WILLIAM H. WEBB

William H. Webb was born in New York in 1814 as steam navigation was getting under way. His father, Isaac Webb, was a member of the shipbuilding firm, Webb & Allen, the elder Webb having previously been associated with Henry Eckford. Young Webb apprenticed himself at the age of 15 to his father's yard, serving six years with but a single week's vacation. He spent this time

off in a study of the first dry dock constructed in America, at the Boston Navy Yard. When 20 years of age he undertook a sub-contract for the building of the New York-Liverpool packet ship *Oxford* of the old Black Ball Line of which Charles H. Marshall was agent, and previously he had been a foreman.

Webb continued as sub-contractor until he was 24 years old, when his health failed and he went to Europe. He was recalled by the death of his father whose finances were involved and which the son brought into good order. He formed a partnership with Mr. Allen in 1840, continuing three years when Mr. Allen retired.

Webb built 133 steam and sail vessels in the following 25 years, the greatest tonnage to come from a single yard in the period. He visited St. Petersburg in 1852 and received a contract for building a line-of-battleship for the Russian Government. Twice he had sent agents who failed, as it was contrary to practice of all governments to have war vessels built outside of government yards. Webb would not be denied. The vessel contracted for was to have 90 guns. The war between Russia and the allies delayed work, as a violation of neutrality laws. On its cessation a new plan and model, designed by Webb, were adopted, with a less number of large caliber guns.

The vessel was built in accordance with Webb's plan, notwithstanding written protests of representatives of the Russian Government, and the new plan was never approved by officials until after the trials, when the officials were enthusiastically appreciative, which illustrates Webb's character and daring. He dared go ahead with a risk which might have brought financial ruin.

The steam frigate *General Admiral,* named in honor of Grand Duke Constantine, was launched September 21, 1858, the fastest steam frigate then built, making the passage, New York to Cherbourg, France, in 11 days and 8 hours.

Count Cavour, Prime Minister of Italy, negotiated a contract for two ironclad, steam screw frigates, of 36 large guns and 6,000 tons displacement, with Webb in 1860. These battleships were plated with 4½ inch armor and possessed extraordinary speed and sea-going qualities. They ran to Naples, 5,000 miles, in 18 days and 20 hours in the middle of winter. These vessels were undertaken just as the Civil War was breaking, yet Webb was able to finish them and carry other work forward even though costs were mounting terribly, and he made no claim for additional compensation.

Merchant steamers were important in Webb's success, but he stands out for designing and quick building of naval craft. Perhaps

the most remarkable was *Dunderberg,* a steam screw ironclad, built for the United States Government, the largest ironclad built at that time, 7,000 tons, affording ample room for fuel, stores, provisions, munitions and accommodations for officers, crew and marines.

The building of *Dunderberg* had much to do with terminating the Rebellion. The hull was 378 feet length, 68 feet beam and 32 feet height of casement. The frame timbers were 12 to 20 inches thick, calked and planked, and over this planking two courses of heavy beams were laid, making an aggregate solid timber wall from five to seven feet thick. *Dunderberg* was built on a model then new and differed from the turret or monitor class. The steering was novel, one of the two rudders being placed forward of the propeller shaft. The speed was 15 knots. The metal-covered prow was believed to be capable of penetrating any vessel, wood or iron, if struck with the vessel's full force at speed. Sixteen guns were mounted on slide carriages, four of 15-inch type carrying 182 lb. shot and the total weight of the broadside was 4,024 lbs. of shot.

The Civil War was over before *Dunderberg* was completed, largely for the fear inspired by the building of this formidable naval craft. With approval of Congress *Dunderberg* was sold to France, sailing for Cherbourg July 19, 1867, and was renamed *Rochambeau.* With a French crew, the trial ship developed 15.3 knots speed, but being a wooden vessel, covered with armor plate, *Rochambeau* met the fate of all such vessels—the wood behind the iron decayed.

Immediately after the war Webb built two steamers for New York-Boston service, 360 feet length, 49 feet beam and 16 feet depth of hold, and a steamer for the Pacific Steamship Company to run to China, 360 feet length, 49 feet beam and 31.6 feet depth of hold, designed to carry 1,000 passengers and freight. Webb introduced many features of naval architecture in this Pacific liner, since in common use.

Webb built 3 sloops, 11 schooners, 5 brigs, 11 barks, 69 ships, 9 steamboats and 28 large steamships, aggregating 200,000 tons. Amongst the famous sailing vessels were the London-Liverpool and Havre packets, *Guy Mannering,* the first full three-deck freighting ship built in America; *Ocean Monarch,* 3,000 tons, which carried more freight than any ship, which once loaded 7,000 bales of cotton and then drew but 18.6 feet.

Famous clipper ships built by Webb were *Helena, Challenge, Comet, Invincible, Swordfish, Young America* and *Black Hawk. Swordfish* made the passage, New York to San Francisco, wharf to

wharf in 90 days, and *Comet* made five successive passages between the same ports that averaged 100 days, one being made in 76 days when 1,025 miles was logged in three days and 385 miles in one day.

Webb built *United States,* the first steam vessel for the New Orleans trade, *Cherokee,* first Savannah liner, and *California,* the first steamer built in America for the Pacific, and the first to enter the Golden Gate in 1849.

The shipbuilding industry has been so completely effaced from the commercial life of New York in the last 50 years that Webb's great activity has almost been forgotten. His fame lives, however, through the educational work which he founded, the Webb Academy and Home for Shipbuilders, on the bank of the Harlem River, Sedgwick Avenue, Fordham. The building was designed from a French château which Webb visited and greatly admired. The museum is a treasure house of American shipping history. Naval architecture is taught in a three-year course but only a few veteran shipbuilders remain to enjoy Webb's great bounty.

JACOB A. WESTERVELT

The block bounded by Third, Goerck and Houston Streets and the East River held Jacob A. Westervelt's shipyard. He constructed more vessels of medium tonnage than any builder of his time. He was born in Bergen County, New Jersey, in 1800, and went to sea as a lad of 14, and he made several voyages before settling down to learn shipbuilding. He was apprenticed to Christian Bergh, remaining four years. Without graduating, he undertook the construction of two schooners at Charleston, S. C., with his employer's consent, using negro slaves owned by planters in and about Charleston.

Returning to New York with the completion of the schooners, Westervelt became a partner with Mr. Bergh, continuing the association until Bergh retired in 1835, after having built in 15 years 71 vessels from 450 to 600 tons. Westervelt designed and built in connection with Edward Mills, the steamships *Washington* and *Herman,* pioneer American ocean liners. *Franklin* and *Havre* were the first steam vessels for the Havre Line, followed by *Arago* and *Rhode Island* for the Government. *Eagle* and *Morro Castle* were built for Spofford Tileston & Company, and Westervelt had great pride in having built the clippers *N. B. Palmer* and *Sweepstakes.*

For American and foreign governments Westervelt built many vessels, amongst these the frigate *Hope,* 2,000 tons, in 1825, for the

Greek Government; *Guadalquiver* for Spain; *Fusiyama* for Japan, and *Ottawa, Atsego, Kankakee* and the sloop-of-war *Brooklyn* for the United States Navy. Admiral Farragut declared *Brooklyn* to be the most efficient man-of-war in the American Navy and it had a splendid record in the Civil War.

Jacob A. Westervelt received high political honors and was Mayor of New York in 1852. With his son, Daniel D. Westervelt, he built 50 steamships, 93 ships, 5 barks, 14 schooners, one sloop, two lightships, 11 pilot boats, a total of 181 vessels of 150,624 tons.

OTHER EARLY SHIPBUILDERS

The eminent naval architect and builder, Henry Eckford of New York, died November 12, 1832, while in the service of Sultan Mahmoud of Turkey. He finished a sloop-of-war for the Emperor in June and was made Chief Naval Constructor for the empire, organizing the navy yard and laying the keel for a ship-of-the-line. He died at the age of 57 years when about to be made a Bey of the Empire, in acknowledgement of his professional abilities.

Henry Eckford had previously furnished President Jackson with a plan of reorganization for the American Navy, and he was preparing to publish a work on naval architecture. He provided $20,000 to establish a professorship of naval architecture in Columbia College under Mr. Doughty, an eminent naval constructor.

William H. Brown built *Empire* in 1843, followed by *Isaac Newton* in 1846; *Alida,* 1847; but he is best recorded in yachting history for his part in winning America's Cup. Brown offered to build a boat, designed by George Steers, that would be proved faster than any sail craft afloat, and to demand no payment if the boat failed to make good. The New York Yacht Club, through a small syndicate, accepted the offer. In repeated trials *America* failed to beat Commodore J. C. Stevens' *Maria* and the syndicate was not bound to purchase, but did so.

How *America* won the "Cup of All Nations" is the foundation of yachting in America. George Steers died within a few years of the cup winning, too soon to realize the great promise suggested by his early achievements as a naval architect.

Henry Steers, a nephew, succeeded to the position of his famous uncle. He was born in 1852 and descended from shipwrights, his father, grandfather and great-grandfather having been vessel builders. At the age of 16 young Henry cut the shore lines of school and went into the yard of his father and his Uncle George Steers, then

partners, and served all the steps in the trade from grindstone boy to foreman.

Henry Steers set up in business for himself in 1857, and in 1859 moved to Greenpoint, his yard occupying 162,000 square feet. He built *Charles H. Marshall,* fastest of the pilot boats; *Hu Quang, Che Kiang* and *Foh Kein* for the China trade. *Foh Kein* made the quickest trip to China and was the fastest boat in Chinese waters for many years and was 275 feet length, 44 feet beam, 22 feet depth of hold.

Henry Steers built *Arizona* in 1865 for the Pacific Mail Steamship Company to run between New York and Colon, then called Aspinwall. *Arizona* was 325 feet length, 46 feet beam and 3,200 tons. *Idaho* was built by Steers for the Government, 300 feet length, 44 feet beam and one of the handsomest ships of the time. Steers built one of the two big ships for the Pacific Mail, the largest wooden ships constructed to that date, 4,700 tons, 360 feet length, 50 feet beam and 31.6 feet depth of hold to spar deck beams, with three full decks and an orlop deck at each end extending to engine and boiler bulkheads, with four watertight compartments and strongly braced with iron bars running diagonally the entire length.

When Henry Steers laid down this million dollar biggest steamship for the Pacific Mail in 1866, he was but 34 years of age and had constructed 16 large ships on his own account at that time.

John Englis & Son was a busy New York yard, later located at Greenpoint, and Englis boats were famous for ingenious stateroom arrangements and fine cabinet work. *New World* was the next largest steamboat in the world when built by Englis, exceeded only by *Great Eastern* in size. Nearly all the big river and Sound boats were built by Englis in the 60 years' period from 1847 to 1907, the last steamboat wholly built at the Englis yard being *Adirondack,* and for 15 years following the firm built superstructures and only went out of business in 1922.

John Englis was born in New York and served seven years apprenticeship at the old Smith & Dimon yard where *Westchester* was built in 1832. He became foreman for Bishop & Simonson and in 1837 went to Lake Erie and built *Milwaukie* and *Red Jacket.* Upon their completion he returned to New York and set up his own yard. He built 113 steamers, including seven for China trade, one, *Sumo Nada,* making the voyage from Hongkong to Shanghai, 1,000 miles in 56 hours, averaging 18 miles' speed for the distance. *Sumo Nada* easily beat the best steamboats to come from British yards.

Plymouth Rock and *Western World,* fastest steamers of the Great

Lakes, were built by Englis in 1853, and his yard built *Unadilla,* 1861, first of the Civil War gunboats, in 48 days, and 12 days sooner than the stipulation. John Englis was not only famous as a builder, coming to occupy the field almost alone, but was also active in financing steamboat lines. He was a large owner in the People's Line to Albany, the Catskill Line, dominated the Maine Steamship Company and held interest in other lines.

THE FAMOUS COLLYER FAMILY

Eight Collyer brothers and their kinfolk had very large part in shipbuilding and steamboat progress in both America and the Far East. The family came from Sing Sing, on the Hudson, and its members operated shipyards in many localities. Captain John L. Collyer, a North River sloop operator, was the eldest.

William Collyer built clipper ships in New York. Ferris Collyer set up a yard on the Great Lakes. George B. and Thomas Collyer had yards in New York famous for the number of fast steamboats built by them. Charles S. Collyer built *John T. Sherman* and other craft on Lake Champlain, and with his brother-in-law, A. G. Lambert, established a yard across the river from Shanghai in China.

Samuel Collyer, youngest of the family, was associated with his brothers in New York and built steamboats on his own account. Stephen Collyer was a steamboat operator. Captain Moses W. Collyer, son of Captain John L. Collyer, was a sloop and schooner master and later owner of steam barges and lighters.

Thomas Collyer was the leading member of the family as shipbuilder. He was apprenticed to Captain Moses Stanton four years and next worked in the yard of Christian Bergh. Setting up his own yard, he built the sloops *First Effort* at Sing Sing and next *Katrina Van Tassell,* launched in 1838 and sailing on the Hudson until 1883. Thomas Collyer's first steamboat was *Trojan* built at West Troy and next he built steamboats on Lake Champlain.

With his brother William he opened a yard at East 12th Street, New York, where *Niagara, Santa Claus,* and *Kingston* were built. The partnership was dissolved in 1847 and Thomas Collyer started his own yard at the foot of East 21st Street. Here he built *Armenia, George Law, Twilight, Sylvan Grove, Osceola, Metamora, P. C. Schultz, Only Son, Reindeer, Norwalk, Daniel Drew* and *Henry Clay,* built in 1850. He built three steamboats, each named *Thomas Collyer,* as well as *Island City, Glen Cove, White Cloud* in 1854 for China trade, and he built *Fire Dart,* the first of the famous "fire"

boats on the Yangtse River, which was followed by *Fire Cracker, Fire Queen* and *Hiang Loong* built by John Englis and Son.

Thomas Collyer's shipbuilding activity included three sloops, 12 schooners, two sailing ships, three barques, two yachts, 26 barges, four propellers, five ocean steamships, and 37 steamboats, of which *Thomas Collyer* (3rd) was his last effort.

George B. Collyer built *Rip Van Winkle* and *Hendrick Hudson* in 1845, *Jenny Lind, William Fletcher,* the famous *Francis Skiddy* in 1852 and the fast day liner *Alida,* all for the Hudson River. A rotary type engine with cylinder 30 feet diameter by 12 feet length with shaft running through the cylinder was planned for *Francis Skiddy,* but when three cylinders of this enormous size had been broken, the builders gave up the design and a conventional type beam engine was substituted.

American steamboats were famous in Chinese waters. The first steamboats sent out there from America needed to be built strong and heavy for the Pacific voyage. Then steamboats were sent "knocked-down" in ships, and set up in China, as *Tah Wah,* built by Sneden and Lawrence and *Kiang Loong,* built by Jacob Westernett, New York, which were erected in Hong Kong.

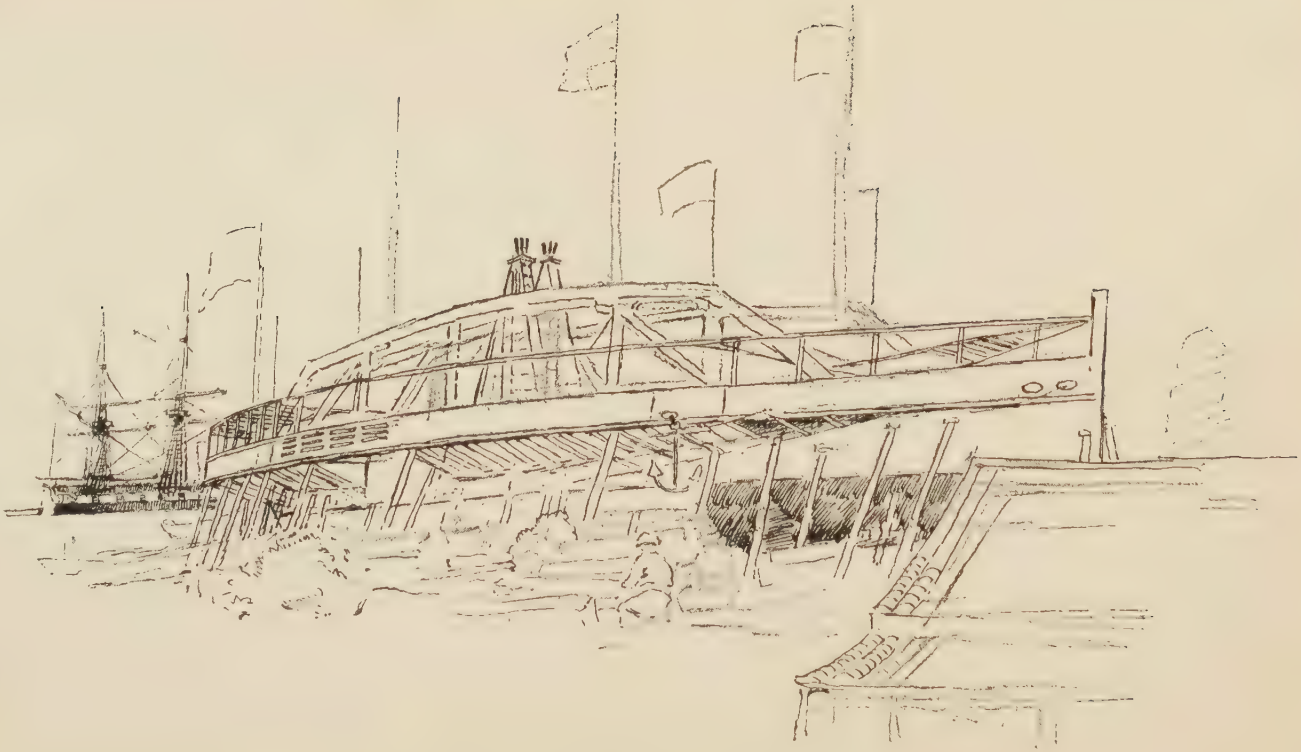
Charles S. Collyer and A. G. Lambert, trading as Collyer and Lambert, set up a yard in China, across the river from Shanghai, which district they named Greenpoint, after the East River shipbuilding section of Brooklyn.

Here they built *Elfin, Tah Wah, Fusiyama; Sycee* and *Felung,* gunboats for the Chinese government, side wheel steamboats, which had rudders at each end and a track on deck for moving the gun carriage; *Vulcan, Stormy Petrel,* a schooner, and the steamboat *Hirado. Elfin* was built under a contract allowing three years to complete and was finished in six weeks.

The liners *Fusiyama* and *Hirado,* typical North River steamboats, plied from Shanghai to Han Kau, 653 miles up the Yangtse River and were built four miles down the river at Yan Kin, at the yard of the Shanghai Steamboat Dock Co., where the first dry dock in China had been built.

Yangste-Ke-Yang, built in New York, was 300 feet length and had an oscillating engine, the first built by the Neptune Iron Works, foot of 8th Street, East River, New York, of which Boardman Holbrook & Co., were proprietors and Joseph Belknap, designer-superintendent. *Yangste-Ke-Yang* ran from Shanghai to Hong Kong.

Blossom, Smith & Dimon were early New York shipbuilders at whose yard *James Kent* was so well built that the hull lasted more



Fusiyama, building at Shanghai, China
(Uncompleted picture by John Wolcott Adams)

than 80 years. The firm style was Smith & Dimon in 1832 when *Westchester* was built and following came *Rochester,* 1836; and *Oregon* in 1845, for George Law, a steamboat that made 22 miles' speed, a performance which would be considered notable now.

William Capes built *North America* in 1827 and the famous *Swallow* in 1836. The yard was then moved to Brooklyn and Capes built *Utica* in 1837 and *Troy* in 1840. Devine Burtis was a Brooklyn builder who constructed many steamboats for Isaac Newton while Lawrence & Sneden built the first *Highlander* in 1835, and *Thomas Powell* in 1846 and Samuel Sneden built *City of Hartford,* 1852, and *Granite State* in 1853, and the famous *Chauncey Vibbard* which ran on the Albany route from 1864 to 1902.

C. & R. Poillon were yacht builders whose reputation centered about the splendid schooner yacht *Sappho.* In 1866 they built *State of New York* for the Hartford Line and *Winona,* one of the 90 day gunboats, came from their yard. *Sleepy Hollow* and *Sunnyside* set a new fashion in commuting steamboats. The Poillons were quality builders—the Herreshoffs of their day, and their influence for simple and beautiful decoration in ships was important.

State of New York attracted attention, being equipped with a steam steering engine, enabling one wheelsman to do the work which had required four men, an innovation strongly resented by the fraternity.

CHAPTER XX

Great Eastern Arrives in New York

THE most magnificent early ocean steamship, *Great Eastern,* conceived in 1855, was the joint production of Scott Russell and Isambard Kingdon Brunel of England, an extended copy of *Great Britain, Great Western* and other iron steamers built on the wave-line principle, with cellular construction of the upper deck and the lower hull, up to the water line, or about 30 feet from the bottom, giving buoyancy, increased strength and ability to resist outside pressure. Two walls of iron, about 60 feet high, divided the vessel longitudinally into three parts, the inner containing the boilers, engine rooms and saloons, rising one above the other, and the lateral divisions, the coal bunkers and above them the side cabins and berths.

The paddle wheels were 56 feet diameter and weighed 185 tons. The engines for the paddle wheels were oscillating type of 1,000 nominal horse power, with four cylinders. The weight of each cylinder, including piston and piston rod, was 38 tons. There were four boilers for the paddle wheel engines, 17.9 feet length, 17.6 feet wide and 13.9 feet high, each weighing 50 tons and containing 40 tons of water.

The screw propeller was 24 feet diameter and 44 feet pitch, the largest that had been cast. Its four fan blades were cast separately and fitted to the large cast iron boss, and the weight of the screw was 36 tons. The propeller shaft was 160 feet length and weighed 60 tons, while the tail shaft was 47 feet length and weighed 35 tons.

The screw engines were horizontal, direct acting, and 1,600 nominal horse power, four in number, and the largest that had been made for marine use. The combined screw engines had 4,500 indicated horse power when working at 45 revolutions with 15 pounds steam, and the expansion cutting off at one-third the stroke. They were made to work smoothly either at 45 strokes with steam at 25 pounds, or at 55 strokes with the expansion cutting off at one-fourth the stroke. Under these circumstances the engines worked at 6,500 horse power.

Great Eastern carried six masts, five of iron and the after mast wood. The standing rigging was seven and a half inch wire rope,

except for the sixth mast which had hemp rope. There was no iron about this after mast, it being the compass position.

The accommodations were for 800 first-class, 2,000 second-class and 1,200 third-class, a total of 4,000 passengers and 400 crew. Descending into the saloon were handsome and roomy entrances and spacious companion stairs. The first-class saloons and sleeping cabins were forward of the center, the second-class abaft them and the third-class was still further aft. The largest saloon was 100 feet length, 36 feet wide and 13 feet high. The staterooms were 14 feet length, 7 or 8 feet wide and 7.4 feet high. There were six saloons with sleeping cabins, 300 feet length.

Having been thoroughly tested for sea-going, the mammoth ship was advertised in England with posters of modest tenor:

Steam communication from Southampton to New York
The Steamship
GREAT EASTERN
18,915 tons register. J. VINE HALL, Commander,
will be dispatched to New York on
Saturday, June 9, 1860.

Delay attended the departure for the western world, but the start was witnessed by tens of thousands of enthusiastic spectators. *Great Eastern* made its appearance in New York, June 28th, reaching the lightship at 7:30 A.M. and anchored, and at 2 o'clock in the afternoon, high water, crossed the bar and proceeded to the city, arriving at the dock at 6 P.M. The event created excitement throughout the city, business was neglected and multitudes thronged the docks and roofs.

Great Eastern left the Needles at 10 A.M., June 17th, and with the exception of two days experienced fine weather. The day's run for the passage ranged from 254 miles to 333 miles. The engines were not stopped until the great ship was off George's Shoal and soundings taken. *Great Eastern* came up in a southeast route, direct to the lightship, where it was boarded by the ship news collector, and John Van Dusen of the pilot boat *Washington, No. 4*, a partner of Admiral Murphy, who had gone to Southampton for the ship. *Great Eastern* drew 27 feet aft, but was trimmed to an even keel before crossing the bar.

This was a critical operation. The order was given by Mr. Murphy, under whose command the ship had passed, to "Go Ahead!"

The engineer waved his hand, the officer below repeated the order to those still further below and in a minute the great wheels began their revolutions. "The stupendous fabric yielded to the mighty power within her bowels," and moving slowly, commenced a triumphal march to the city. Gradually the point of danger was approached—the perilous bar was at hand. Speed was slackened, and Mr. Murphy silently waved his orders to the helmsman. The ship obeyed its helm with almost the readiness of a sailboat and proceeded on its way.

Passing Fort Lafayette a salute was fired and answered by the four guns of *Great Eastern* and from this time onward it was a continual ovation. Cannon boomed, steam whistles shrieked until wheezy, flags were dipped in graceful welcome, people hurrahed, handkerchiefs waved, fast yachts dashed along in the huge shadow under a cloud of canvas and demonstrations of a kindly nature came from every quarter. The Battery was black with the dense multitude, and wharves, shipping and every foothold commanding a view presented the same animated appearance.

When the vessel neared the city hundreds of little craft shot out into the stream and fell in the wake of *Great Eastern*. The world's largest steamship, gliding majestically and quietly, was escorted by an immense steamboat fan, every fold quivering with life. Trinity Church chimes played "Rule, Britannia" and salutes were fired from all steamers in port and the Cunarders at Jersey City did honors.

Great Eastern proceeded up North River as far as 45th Street and then headed down stream. The docking reflected highest credit on Pilot Murphy. The immense ship was carried alongside by the pilot with the same ease he would have handled his own pilot boat, without the aid of a single hawser from a friendly tug, to the astonishment of officers and passengers. *Great Eastern* touched the dock gently, chipping off only a splinter as it came alongside; hawsers were gotten out, passengers' luggage inspected and removed, a warmhearted "good by" said and the company departed.

Only 45 passengers could be found in 1860 to venture upon the first voyage, owing to the novelty and vastness of the experiment and the serious doubts which had been freely expressed from the first conception of the enterprise as to the manageableness of such a vessel in a storm at sea.

Great Eastern was visited by thousands of sightseers who paid an admission fee to inspect the majestic ship, twice as long (680 feet length) as the U. S. Frigate *Niagara,* and nearly five times the

tonnage (about 20,000 tons) of that giant of the American Navy. Four times up and down the deck was a mile walk. Built wholly of iron plates, the greatest strength was attained. Each plate was separately designed by the builder, Brunel, and there were but few amidships, out of the 10,000, which resembled each other in shape. Brunel made an exact pattern of each plate in wood; steam shears cut the plates of iron to match, a steam roller curved them to suit and a steam punch pierced the bolt holes; these were applied at white heat and riveted close, the contraction of cooling drawing the plates together.

Ten thousand tons of iron, in 30,000 plates and 300,000 rivets, were employed in the construction of the hull. The weight of the ship was given as 12,000 tons and the coal and cargo 18,000 tons more. No invention of the times, capable of contributing to the ship's strength and safety, was lost sight of; 16 watertight compartments, ten walls of iron at distances of 60 feet from each other, dividing the hull transversely, and a longitudinal wall bisecting the ship for about half its length, so that in the event of running on a rock or being shattered by storms there would still be safety for those on board.

Great Eastern was lighted by gas made on board, and on dark nights an electric light shone from the maintop. The anchor was weighted, the sails hoisted, and pumps worked by steam, and electric telegraphs enabled the captain to communicate with remote officers.

Excursion parties came from principal cities to view the lofty walls of iron, the sumptuous machinery and marvelous arrangements, and opportunity was offered to witness *Great Eastern's* steaming qualities, for it made excursions to Cape May and elsewhere.

CHAPTER XXI

Steamboats of the Great Lakes

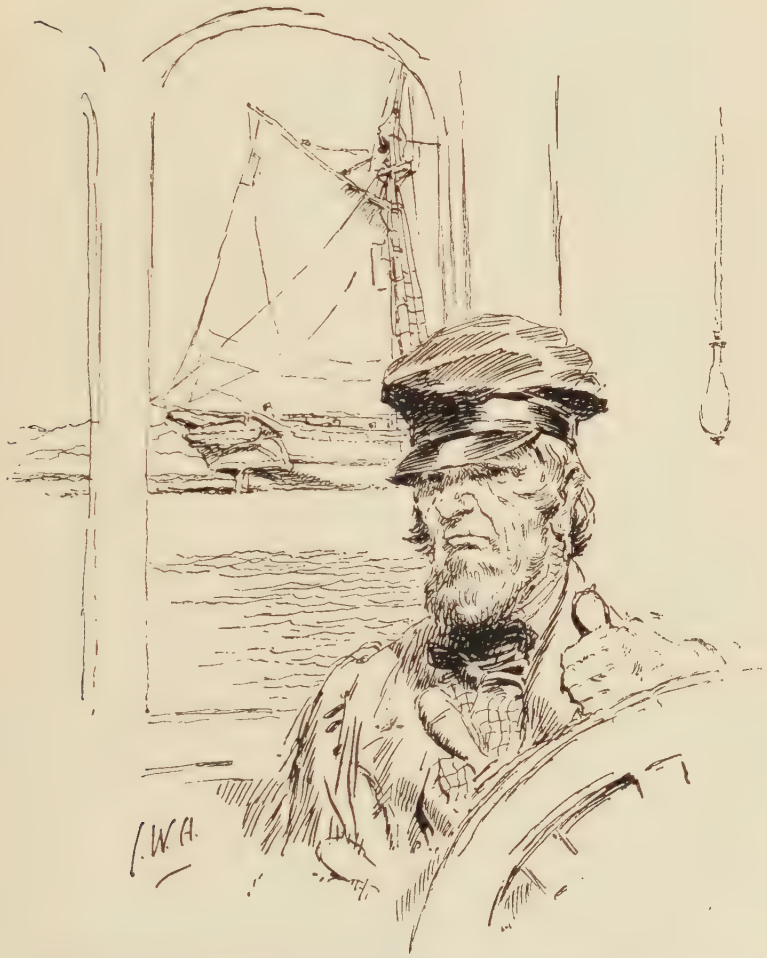
NINETY thousand square miles of the Great Lakes, stretching 1,555 miles in length, remained a transportation waste until 1797 when the first American schooner was launched, and with no outlet to the South or Atlantic coast the number of craft increased slowly. A steamboat was built on Lake Ontario in 1816, and in 1819 *Walk-in-the-Water,* 340 tons, was launched at Buffalo. Trinkets and supplies were carried westward, the steamers returning with furs and peltries, being mostly trade with Indians. A new order was created with the opening of the Erie Canal in 1825. Western New York threw off its frontier aspect and became an exporter of goods, a receiver of produce, and the base from which adventurous pioneers set out for the new West.

Steam tonnage multiplied to transport growing commerce. *Superior* was launched in 1822, another steamboat in 1824, two in 1825 and three in 1826. The first voyage upon Lake Michigan was made in 1826, a pleasure excursion, and then in 1832 business called, and a Government steamboat reached Chicago, carrying supplies for the Black Hawk War. Lake tonnage reached 14,381 tons in 1841 and by 1850 had jumped to 58,711 tons and in 1860 to 108,243 tons, one-half of which was registered out of Buffalo, one-third from Detroit while Chicago had 8,151 tons in 1860 and none before.

The 11 steamboats running in 1833 carried 61,485 passengers to and from Buffalo and fares and freight receipts totaled $229,212. This was the year of the great land speculations when crowds streamed West. Three trips were made each year to the Upper Lakes. From Buffalo to Chicago and return required 25 days, the round-trip to Detroit was 10 days in making, reduced to three days for paddlers and five days for propellers in 1851.

Lake commerce was controlled by an association owning 18 steamboats in 1834, ruling until 1841 when it then owned 48 vessels. The Ohio canals opened up a great grain country to the lakes and in 1835 Ohio exported, by water routes, 543,815 bushels of wheat; increased to 3,800,000 bushels in 1840 and in 1851 reported as 12,193,202 bushels, paying $500,000 in freights, and then in the

'60's upwards of 26,000,000 bushels of wheat streamed across the lakes in ships. Enormous bulk freights, largely wheat and ore, have continued to be moved by lake steamers in the navigation season, and



Early steamboats carried hard rudders and were difficult to steer

a type of vessel developed specially adapted to lake transportation.

The opening of the Ohio Canal in 1833; the Illinois Canal in 1848 and the Indiana Canal in 1851 added to the transported

produce, and railroads, when they were extended were feeders increasing the lake trade. The size of vessels, their greater speed when under way, and the greater dispatch in loading and unloading by modern power, permitted the same quantity of tonnage to do ten times the business. Lake steamers averaged 435 tons in 1859 and in the '60's side-wheelers averaged 680 tons and 478 tons for propellers. Lake freighters of less than 4,000 tons became unprofitable against 6,000 and 7,000 ton steamers, while *Col. James M. Schoonmaker* is 8,603 gross tons, 590 feet length, 64 feet beam, 34.2 feet depth of hold, with engines of 2,500 horse power.

Great Lakes traffic had increased in 1914 to 185,000,000 tons and Buffalo received 190,143,327 bushels of grain and 9,312,114 barrels of flour. The tonnage passing through Detroit River, reported by Army engineers, showed an average for the ten years, 1904-14, of 33,000 passing vessels of 55,000,000 registered tons, carrying cargoes of 70,000,000 tons valued at approximately $800,000,000.

The change from side-wheelers to propellers began in 1843 with the building of *Hercules,* 275 tons, at Cleveland, and in 1851 there were 52 propellers on the lakes of 15,729 tons. The number had increased to 118 propellers of 55,657 tons in 1860 and while these early propellers had less speed they gained in favor for their economy of fuel until they came to almost monopolize lake traffic.

Walk-in-the-Water was built by Noah Brown at Black Rock (Buffalo) in 1818. The crosshead engine was built by Robert McQueen, New York. James B. Stuart, Nathaniel Davis, John Mads, Robert McQueen, Alexander McMuir, Noah Brown and Samuel McCoun were owners and the new steamboat left for Detroit August 25, reached in 44 hours and 10 minutes, and continued to run to Detroit, with occasional trips to Mackinac and Green Bay for three seasons, and then went ashore in a gale of wind and was wrecked near Buffalo, November 1, 1821. Papers were surrendered the following April when *Walk-in-the-Water* was broken up and the engine recovered and installed in *Superior* in 1822. The engine had long life, for some of its parts went in *Waterloo,* a third hull, which was lost in 1846.

Hundreds of lake steamboats were built, for the short season made business heavy in the months of open navigation. Wooden hulls continued many years, even after iron had been introduced in *Merchant* in 1862. Wood was available and cheap. Gradually a type of lake freighter was developed, long, high-sided craft, with power plant located aft, pilot house and living quarters forward and a series of compartment holds between the ends.

Some of the early outstanding lake steamers were *Michigan,* 1833, whose two beam engines afterwards went in *R. R. Elliott* and *City of Sandusky; Thomas Jefferson,* 1834, whose engine went in *Louisiana* and was lost in her in 1858; and *Empire,* the first lake steamboat to measure more than 1,000 tons. *Empire* was built in 1844 at Cleveland by Captain George W. Jones and was 200 tons larger than any other vessel in the world, fast and splendidly appointed. *Empire* ran many years between Buffalo and Toledo and was converted to a propeller latterly.

Princeton, a twin screw propeller, was built in 1845, the first with an upper cabin. The twin engines were built at Auburn, N. Y., State Prison. *Princeton* ran in a fleet of 14 passenger steamboats, connecting Buffalo and Chicago. *Atlantic,* built by J. L. Wolverton, Newport, Mich., in 1848, was 267 feet length, with engine by Hogg & Delamater, New York, was chartered to run between Buffalo and Detroit with *Mayflower* and *Ocean,* in connection with the Michigan Central Railroad, running on the route 1849-52. *Atlantic's* end was a Great Lakes tragedy, being run down by *Ogdensburg* off Long Point, Canada, August 20, 1852, sinking in 15 minutes. Of the 420 passengers and crew 150 persons perished. *Atlantic* held the speed record, Buffalo to Detroit, 16½ hours, and was the favorite steamboat of the times.

Mississippi ran between Buffalo and Sandusky with *St. Lawrence,* and was new in 1853, going out of commission in 1859 and laying up at Detroit until 1863 when deck houses and furnishings went into a new hull, named *Racine. Mississippi's* engine was brought to New York and installed in *Guiding Star.*

Western World and *Plymouth Rock* were sensations in 1854, designed by Isaac Newton, whose Hudson River steamboats were famous, and built by John Englis & Son, Brooklyn, who brought a trained force to Bidwell & Banta's Buffalo yard and the Allaire Works, New York, built the engines. Each ship measured 2,000 tons, 348 feet length, 45 feet beam, 72.6 feet over guards and 15 feet depth of hold. The engines had cylinders 81 inches diameter by 11 feet stroke, rated 1,500 horse power, and the wheels were 38 feet diameter.

These were the finest steamboats on the Great Lakes and were built by the New York Central and the Michigan Central Railroads to ply between Buffalo and Detroit. They cost $250,000 each and no expense was spared. Hull timbers were diagonally braced with iron, the floors were solid, and they had four watertight compartments. The saloon decoration combined Gothic, Ionic and Doric

architectural motifs and there were stained glass domes and rosewood furniture while the dining hall seated 200 persons. In the second year the boilers were moved forward, which improved them. *Western World* made Detroit from Buffalo in 14 hours and *Plymouth Rock* was even faster. After a few seasons both boats were laid up at Detroit for several years and broken up. *Western World* was dismantled at Buffalo, and the engine went in *Fire Queen,* a New York steamboat.

Western Metropolis was built in 1856 to run between Buffalo and Toledo in connection with the Michigan Southern and Northern Indiana Railway, and had iron paddle wheels and made 21 miles' speed, being dismantled in 1862 and made into a barque, then carrying 65,000 bushels of grain, spreading 5,000 yards of canvas and was never beaten under sail. *Western Metropolis* was lost in Lake Michigan in 1864. The engine had been first installed in *Empire State,* and when removed was taken East and installed in a steamboat of the same name.

Milwaukee and *Detroit* were built in 1859 and were the only ocean type of side-wheelers to come on the lakes. They were designed by H. O. Perry and were built by Mason & Bidwell at Buffalo, being 247 feet length, 34 feet beam and 17 feet depth of hold. They ran between Milwaukee and Grand Haven. *Milwaukee* was lost, October 9, 1868, entering Grand Haven harbor in a gale, but no lives were lost.

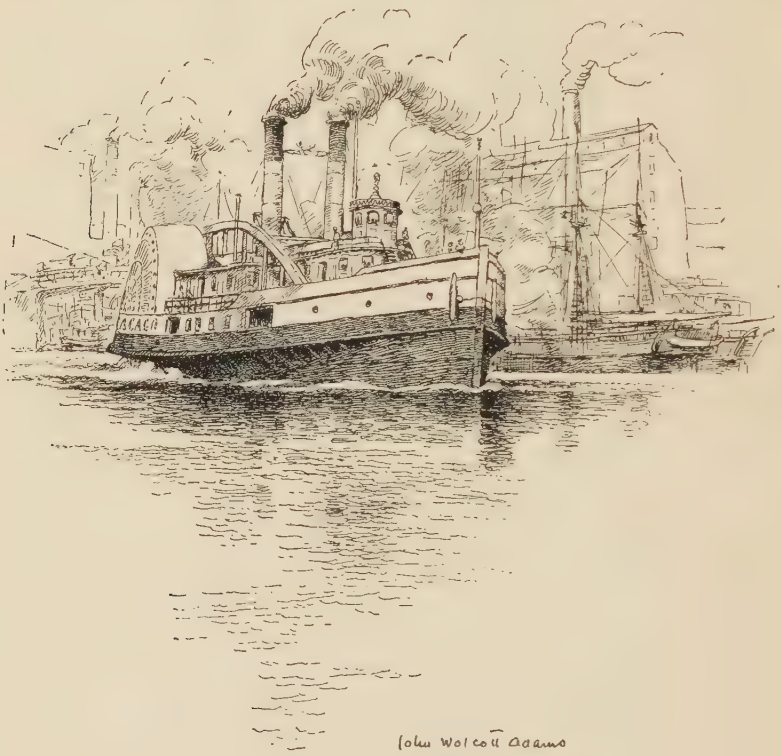
Merchant, built at Buffalo in 1862 by David Bell, was the first iron propeller on the Great Lakes and ran between Buffalo and Chicago for J. C. & E. T. Evans for 13 years. *Merchant* ran on Racine reef, October 8, 1875, a total loss. *Ironsides,* built at Cleveland in 1864, while running out of Milwaukee, struck on Grand Haven bar, September 14, 1873, and foundered ten miles off shore. Passengers and crew took to boats, but 24 lives were lost.

Greyhound had a jumbled history, being first *Northwest,* built at Manitowoc in 1867 and 248 feet length, 32 feet beam, 54 feet over guards, with engine having cylinder 60 inches diameter by 12 feet stroke, and was built for the Goodrich Transportation Company to run along Lake Michigan western shore. The engine came from the old *Planet,* dismantled in 1866, and had been originally installed in *Canada,* built in 1846, and in 1851 was installed in *Caspian,* which was wrecked in 1852. This same engine was set up in *E. K. Collins* in 1853 and when that ship burned in Detroit River in 1854 the engine was salvaged and went in *Planet,* which was

The early railroads were conceived as feeders for steamboat lines

completed in 1855. From *Planet* the engine went in *Northwest* in 1867, which later became *Greyhound.*

Northwest replaced *Morning Star* between Cleveland and Detroit in 1868, continuing until 1876 when the old engine, now worn out, was junked and the engine from *Detroit,* built in 1859 by the



Chicago, an early Great Lakes steamer

Shepard Iron Works, Buffalo, replaced it. *Greyhound* continued until larger and finer steamboats came to the run, when it was altered for day excursions. A new *Greyhound* was built in 1902 for Detroit excursion business.

Sheboygan, built in 1869 at Manitowoc, had a historic engine, built by the Buffalo Engine Works, which had previously been in *City of Cleveland* and *Garden City. Chicago,* built in 1874, inherited *May Queen's* engine. Another *City of Cleveland,* built at

Wyandotte, Mich., in 1880, had an engine, built by Dunham & Company, New York, with cylinder 50 inches diameter by 11 feet stroke from *United States.* The cabins came from *Adirondack,* which ran on Lake Champlain. *City of Cleveland* was built for the Detroit & Cleveland Steam Navigation Company and made 19 miles speed, and afterwards ran between Detroit and Hancock on Lake Superior, and later to Alpena, being then named *City of Alpena.* A new line was organized to run between Cleveland and Buffalo in 1893 and *City of Alpena* became *State of Ohio.*

Owego and *Chemung,* built at Buffalo in 1888 by the Union Dry Dock Company, were the finest freight propellers on the Great Lakes when they came out, 2,611 tons, 350 feet length, with triple expansion engines, and cost $350,000. The Union Steamboat Company built them to carry package freight between Buffalo and Chicago and they averaged 16½ miles per hour, the fastest time that had then been made by lake freighters.

City of Detroit, one of the first of the modern passenger lake liners, was designed by Frank E. Kirby and built for the Detroit & Cleveland Steam Navigation Company by the Detroit Dry Dock Company in 1889, and cost $250,000. The Detroit Dry Dock Co. succeeded Campbell Owens & Co., shipbuilders. The first yard on the lakes to build metal ships, at Wyandotte, Mich., was established by Stephen R. Kirby and his sons, F. A. and Frank E. Kirby, for Captain E. B. Ward. *City of Detroit* made 21 miles' speed, the engines being built by W. & A. Fletcher Company, Hoboken. *City of Chicago* was built in 1890 for the Graham & Morton Transportation Company, a passenger liner, and in the same year *Frank E. Kirby* came on to run between Detroit, Sandusky and Put-in Bay. *Frank E. Kirby* made 21 miles an hour, the engine coming from the Alaskan revenue cutter, *John Sherman,* having 48 inches cylinder diameter by 9 feet stroke, rated 1,330 horse power.

The first inclined beam engine was installed in *City of Toledo,* built in 1891 for the Toledo-Put-in Bay route, and built by the Cleveland Shipbuilding Company, of triple expansion type with cylinders 26, 42 and 60 inches diameters by 6 feet stroke. *City of Toledo* was used in the World's Fair trade and then came back to its route.

W. H. Gilcher, which held the record as the largest wheat carrier, 113,885 bushels, was built in 1891 at Cleveland, and foundered in a Lake Michigan gale, October 28, 1892, when all on board were lost.

Virginia, a twin screw propeller, was built in 1891 for the

Goodrich lines, running from Chicago to Milwaukee, and cost $250,000, having accommodations for 300 passengers. *Virginia* makes 18 miles' speed. *Chicora* was built in 1892 for the Benton Harbor route and *Manitou* at South Chicago in 1893, to run between Chicago and Sault Ste. Marie. *Manitou* had accommodations for 400 persons and cost $300,000.

Few steamboats attracted the attention that came to *Christopher Columbus,* a whaleback designed by Alexander McDougall and built by the American Steel Barge Company in 1892 at West Superior, Wis., being 362 feet length, 42 feet beam and 24 feet depth of hold, the hull being divided by nine bulkheads. It was claimed for the unusual design that it combined great strength, fine appearance and roominess, but those with practiced eye for good lines found the whaleback ungainly above the water line. *Christopher Columbus* carried thousands of passengers in World's Fair time and has been successful in the years since. In the 1923 season, while tied up in Milwaukee, it was struck with a great weight, falling from a high building, but sustained slight damage.

It remained for James J. Hill to bring out the finest steam vessels on the Great Lakes, *Northwest* and *Northland,* built for the Northern Steamship Company to run between Buffalo and Duluth. *Northwest* came out in 1894, being built by the Globe Iron Works, Cleveland, 383 feet length, 44 feet beam, 25 feet depth of hold and 4,244 tons, with twin screws driven by engines of 7,000 horse power. These vessels cost $650,000 each and had accommodations for 350 first-class and 300 second-class passengers, and carried no freight.

Great Lakes speed records are claimed for *Theodore Roosevelt,* a day liner running from Chicago, built in 1906 at Toledo, 275.6 feet length, 40 feet beam, 23.4 feet depth of hold, with 5,000 horse power. *United States,* in the same line, was built in 1909 at Manitowoc, being 193 feet length, 41 feet beam and 16 feet depth of hold. *United States* was purchased by Col. E. H. R. Green and was used several years as a yacht on the Atlantic coast, going back to Lake Michigan in the former service in 1923. *Tashmoo,* in excursion business from Detroit, was built at Wyandotte in 1900 and is 302.9 feet length, 37.6 feet beam, 13.6 feet depth of hold and rated 3,150 horse power.

Large liners running from Chicago, Detroit, Toledo, Cleveland and Buffalo include:

Name	Dimensions	Built	At
City of the Straits	234 x 36 x 13	1878	Wyandotte, Mich.
City of St. Ignace	272 x 40.6 x 14.6	1886	Wyandotte, Mich., ex *City of Cleveland*
City of Detroit II	286.6 x 40.8 x 14	1889	Wyandotte, Mich., ex *City of Detroit*
City of Marquette	114.2 x 25.3 x 9.1	1890	Manitowoc, Wis.
City of Cheboygan	98 x 29.9 x 10	1890	Cleveland, Ohio
City of Chicago	254 x 34 x 13.6	1890	West Bay City, Mich.
City of Toledo	212 x 31.7 x 12.8	1891	Toledo, Ohio
City of Mackinac II ...	266 x 69.2 x 13.4	1893	Wyandotte, Mich., ex *City of Mackinac*
City of Buffalo	340.3 x 43.7 x 15	1896	Wyandotte, Mich.
City of Erie	316 x 44 x 18	1898	Wyandotte, Mich.
Eastern States	350 x 44 x 19.9	1902	Wyandotte, Mich.
Western States	350 x 44 x 19.9	1902	Wyandotte, Mich.
Western Star	416 x 50.3 x 29	1903	Wyandotte, Mich.
Eastland	265 x 38.2 x 19.5	1903	Port Huron, Mich.
City of South Haven ..	247.7 x 40.3 x 21.7	1903	Toledo, Ohio
City of Benton Harbor..	251.8 x 36.5 x 14.4	1904	" "
City of Cleveland III ..	390 x 54.2 x 22.3	1907	Wyandotte, Mich., ex *City of Cleveland*
City of Detroit III	455.8 x 55.5 x 22.5	1912	Wyandotte, Mich.
City of Grand Rapids..	291 x 48 x 27	1912	Cleveland, Ohio
Seeandbee	484.5 x 58.1 x 24	1913	Wyandotte, Mich.
Greater Detroit	550 feet	1925	
Greater Buffalo	550 feet	1925	

Eastland, carrying a day excursion of Western Electric Company workers from Chicago, July 24, 1915, turned over in Chicago River, and 812 excursionists were drowned.

CHAPTER XXII

Atlantic Coast Lines

CHARLES MORGAN is credited as the father of coastwise shipping in the United States. Neither wars nor discouragements stopped his constructive program. When, in the beginning of the Civil War, dollars were husbanded against the unknown future, Morgan added to his stakes, putting on new ships and running them under unfriendly British guns and past Confederate forces. Morgan had no partners. The Morgan Line is his monument. Born in Clinton, Conn., on Long Island Sound, April 21, 1795, young Morgan worked in the country store and came to New York when 14 years of age. He engaged as a clerk in a grocery, and soon opened a store of his own. This led to importing on his own account, next to owning shares in West Indies ships and then to ownership of a line.

Morgan started the first steamer between New York and Charleston, purchasing an interest in *David Brown,* placed in that trade. With others he built *William Gibbons, Columbia* and *New York. Columbia,* in 1835, was the first steamboat to navigate the Gulf of Mexico. Before Texas had established independence, before the battle of San Jacinto had been fought and won, Morgan began his Texas steamship business, sending *Columbia* from New Orleans to Galveston.

Galveston then had but one house and no docks, and Morgan ships loaded freight onto scows, towed to the beach and carried to the interior in wagons. From small beginnings Morgan's business grew so rapidly in the late '40's that he purchased two small steamers from Cornelius Vanderbilt and kept Harlan & Hollingsworth Company's Wilmington yard busy building new hulls, and he established the Morgan Iron Works, New York, to build engines. He built 28 steamers at the Harlan plant in 25 years and was the magnificent patron of that yard.

Morgan's fleet of sea-going steamers was constructed of iron when wood was commonly used. His steamers ran between New York, New Orleans and Galveston, Indianola, Lavaca, Sabine, Rockport and Brazos Santiago on the border of Mexico. He ran a line of steamers on Lake Pontchartrain between New Orleans and Mobile.

The Morgan Line lost many vessels in the early days of Texas business, for the coast was uncharted and inhospitable, but with perseverance Charles Morgan supplied other and better ships, always working to standards of design and build. Morgan was particularly careful in his selection of masters for ships and intuitively found the right man for the right place.

During his long career he operated many ships on many highways of coastwise commerce. He owned the line running between New York and Charleston, between New York and New Orleans, and upon the discovery of gold in California he foresaw the need for quick and reliable transportation to the west coast, and was among the first to buy and build ships for the Pacific trade, running them upon both oceans and at different times upon both the Panama and Nicaragua routes.

Louisiana public-spirited men proposed opening up the undeveloped section of Southern and Western Louisiana and bringing New Orleans in direct connection with the resources of Texas and Louisiana. The New Orleans, Opelousas & Great Western Railroad was organized for this purpose and the plans called for a line extending through Lafayette and Alexandria, across the Sabine River at a point near Thompson's Bluff, west through Texas to El Paso, thence to Mazatlan, in Mexico, on the Pacific Ocean. The first division of the railroad, commonly known as the "Opelousas Railroad," was completed in 1857 and operated to Brashear City, 80 miles, connection being made with steamers of the Morgan Line and the Vanderbilt Line for Texas and Mexican points.

These steamers were of light draught as the depth of water in what was then known as "Ann Channel," and later on as "Morgan Ditch," would not admit of passage of vessels more than 7½ feet draught. After passing through this channel, ten miles in length, and entering Berwick Bay, there was sufficient depth to permit easy docking of vessels at wharves located at what is now Morgan City, and connections were made with steamboats plying inland waterways.

The Opelousas Railroad erected large cattle pens at Morgan City in 1857, to care for shipments of cattle received by steamboats from Texas for transportation by rail to New Orleans. Morgan operated railroad lines and branches more than 100 miles length, the only railroad of 100 miles length to be owned by one man, extending from Algiers, on the west bank of the Mississippi River, across from New Orleans, to Brashear (afterwards Morgan City), on the Atchafalaya River and Berwick Bay in the State of Louisiana.

Morgan paid $2,050,000 for the road and spent as much more in betterments. The object of the road, also Morgan's purchase of it, was to avoid running steamers down the Mississippi from New Orleans and 100 miles was saved using Morgan City for embarkation of Texas freights. Morgan Line steamers in the Gulf of Mexico became as familiar as the Gulf itself.

Morgan's railroad and steamship lines were taken over by the military authorities of the United States, May 1, 1862, and operated by the Government until February 1, 1866. A. B. Segar was president of the Morgan road during this difficult time and conducted the affairs of the company with great devotion to the interest of the owners. When taken over by the United States the Opelousas Railroad had not been completed beyond Morgan City, but was cleared, graded and ready for ties and rail for a distance of 60 miles beyond when the outbreak of the Civil War caused suspension of work.

The steamers operated by the Morgan Line in this trade were: *Matagorda, Alabama, I. C. Harris* and *Harlan* and *William G. Howe, Clinton, St. Mary's* of about 1,000 tons.

Charles Morgan purchased the New Orleans, Opelousas and Great Western Railroad at marshal's sale, April 5, 1869. Morgan City became the terminus of the Morgan road and from it Morgan steamships and river boats supplied Texas and Louisiana for ten years. The Morgan Line added *Hutchinson* in 1870, followed by *Whitney, Josephine* and *Gussie. Whitney* and *Josephine* were later placed in Cuban and Mexican trade.

Morgan completed a steamboat channel through Atchafalaya Bay in 1873-74 which was 200 feet wide and 10 feet deep, enabling Morgan steamboats to ply between Galveston and Morgan City across what had been a trackless swamp. The increased business of this route proved Morgan's sagacity, and he was then more than 70 years old.

The Morgan Line began to operate the New York and New Orleans Line in 1876 with the screw freighters *Lone Star, Algiers, Morgan City* and *New York,* about 2,300 gross tons. The railroad was pushed through to Lafayette in 1878 and that year Morgan's Louisiana & Texas Railroad & Steamship Company was organized, this being but a few weeks before Mr. Morgan's death.

No object was too large for Morgan to undertake, and his ability to command capital for his plans was magnificent. He built extensive wharves, piers, breakwaters, cattle pens, bridges, grain elevators, depots, steam cranes for sea dredging, and reorganized railroad lines,

penetrated unexplored regions of interior Texas, and he seized upon every opportunity by which business might be stimulated. Not counting wooden sailing ships and wooden steamers nor the fleet of transport tenders, tugs and barges which attended the Morgan shipping business in the Gulf and in New York waters, he built 31 large seagoing craft, such a fleet as had never been owned by one man, and in his career he built and managed 117 vessels.

THE MORGAN FLEET IN CHARLES MORGAN'S TIME

Built	Name	Tons	Length Feet	Beam Feet	Depth of Hold Feet
* 1856	*General Rusk*	750	200	31	12
1858	*Arizona*	1,000	200	34	10
* 1859	*Austin*	1,150	200	34	15.6
* 1860	*W. G. Howe*	2,250	239	33	18
* 1861	*St. Mary's*	1,450	210	34	18
* 1862	*Crescent*	1,400	210	34	18
* 1863	*Clinton*	1,450	210	34	18
* 1863	*Frances*	850	225	32	10
* 1863	*Louise*	850	225	32	10
* 1864	*Frances No. 2*	850	225	32	10
* 1865	*Morgan*	1,450	210	34	18
* 1865	*Harris*	1,450	210	34	18
* 1865	*Harlan* **	1,450	210	34	18
* 1865	*Lady of the Lake* ..	800	210	31	9.6
* 1865	*Mary*	850	235	35	10
* 1865	*City of Norfolk* ..	900	225	32	11
* 1866	*Laura*	850	225	34	8.9
* 1867	*Josephine*	1,283	235	34	18.6
* 1870	*Hutchinson*	1,435	245	35.6	19
* 1871	*Whitney*	1,338	235	34	18.9
* 1872	*Gussie*	998	222	33	19
1875	*Brashear*	1,735	275	38.4	22.9
1875	*New York*	1,735	275	38.4	22.9
1876	*Algiers*	1,716	275	38.4	22.9
1876	*Morgan City*	1,716	275	38.4	22.9
1877	*Arkansas*	1,157	240	35	18.6
* 1878	*Mary Morgan* ...	369	165	28	9

* Side-wheel steamer.

** Afterwards *City of Monticello,* New York & Charleston Line, 1886.

Charles Morgan was a courteous, kindly and quiet man, considerate and always happy and cheerful. He was quick, full of nerve, sagacity, intuition and he had rare judgment. His self-confidence was absolute and he was strong and alert in emergencies. The Morgan School at Clinton, Conn., his birthplace, was built and endowed when he was 78 years of age.

Chalmette, 3,200 tons, was built in 1879 and placed in New York-New Orleans trade, and New York traffic had so increased in 1882 that *Excelsior,* 3,500 tons, built at Harlan plant, Wilmington, Del., was added, while larger and faster vessels were chartered while new vessels were building. The line continued to operate steamers between Morgan City and Texas as the Texas Line and the Vera Cruz Line to Mexican coast points, both services being abandoned in later years. Service to Havana was begun in 1873, touching at Cedar Keys and Key West and in latter times at Fort Tampa.

The Southern Pacific Railroad reached El Paso from the Pacific coast in 1880 and the gap at Devil's River in Texas was closed, completing the Southern Pacific's transcontinental line, when through trains from New Orleans to San Francisco began to run in February, 1883.

Eureka, El Dorado and *El Paso* were built in 1884; *El Monte* in 1886, and *El Mar* in 1889, being 14-knot ships of about 3,500 tons, followed in 1890 by *El Sol,* 4,500 tons and 15 knots, and contracts were placed for *El Norte, El Sud* and *El Rio* in the same class. These four ships were taken by the Government in the Spanish-American War and were so adapted to transport service that they were not returned to the Morgan Line. *New Orleans, Knickerbocker* and *Hudson* were chartered in 1899 and in 1901 contracts were let for *El Norte, El Sud, El Cid* and *El Rio,* followed by *El Valle, El dia, El Siglo* and *El Alba,* all of the same design.

The Morgan rail and steamship lines were acquired by the Southern Pacific in 1885. The New York and Galveston Line was established in 1902 with three steamers weekly, and the same year the company took over the Cromwell Line, which added *Comus* and *Protseus,* freight and passenger steamers of 4,800 tons, operated between New York and New Orleans, also acquired from the Cromwell Line *Louisiana,* 2,900 tons, which was placed in Havana service in 1903, continuing until it sank at New Orleans docks in April, 1905.

The line's docks in Algiers were given up in 1903 and the company's business transferred to the New Orleans side of the river. *Momus* and *Antilles,* 6,878 tons and *Creole,* 6,754 tons, were added

Huron, a present-day Caribbean coaster

in May and June, 1907, and four 16-knot ships were contracted for in 1909, *El Sol, El Mundo, El Oriente* and *El Occidente,* 6,400 tons, which came on the next year. The last named were made oil burners and in 1912 the line added *Topila,* and in 1917 *Torres,* tankers. *El Almirante* and *El Capitan,* 6,500 tons, 12-knot freighters, were added in 1916. *El Paso,* built in 1886, *El Monte* and *El Mar,* built in 1889, because of their age, small carrying capacity and obsolete type, were replaced in 1920 and '21 with *El Estero, El Isleo,* and *El Lago,* 4,000 ton freighters, and in 1921, *Tamiahua,* a third tanker, was added.

A new passenger and freight liner, *Bienville,* to run with *Creole* and *Momus* in New York-New Orleans service, was built in 1924 at the Tacoma, Wash., yards of the Todd Drydock & Construction Co., 445 feet length, 57 feet beam, 25.6 feet draught and equipped with turbine engines of 6,000 horse power, estimated to cost $2,000,000, and burned at New Orleans dock in 1925, and was rebuilt in Brooklyn as a freighter.

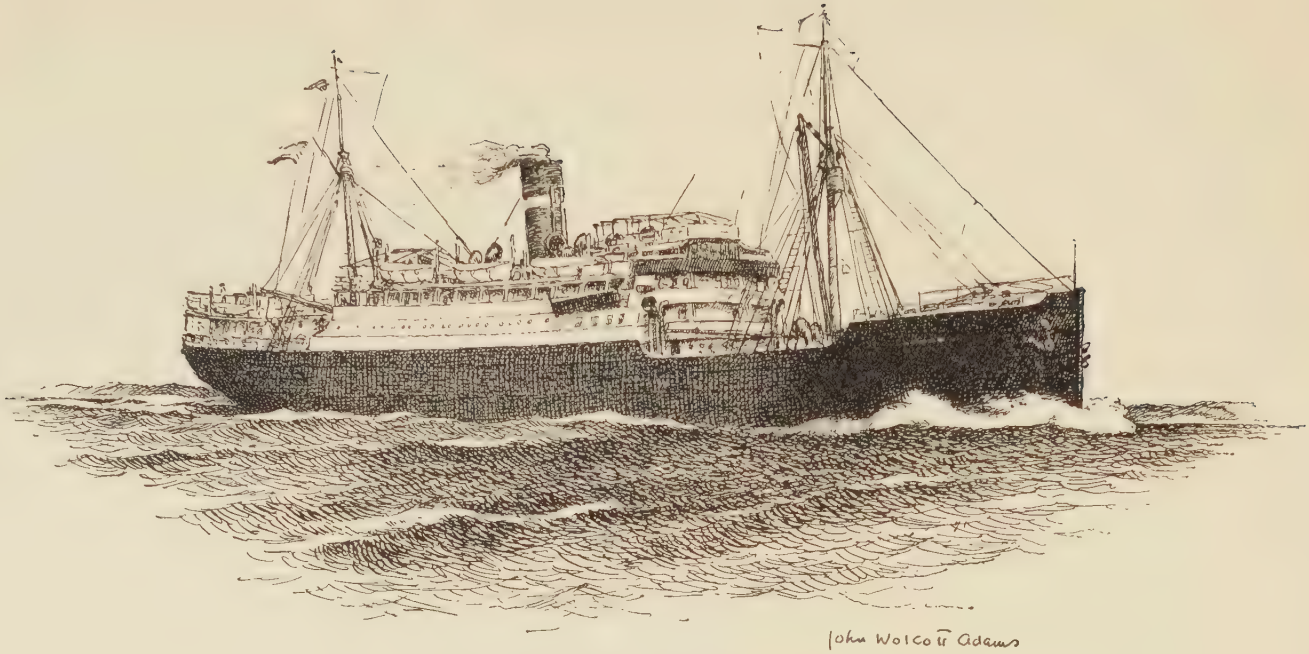
The Morgan house flag was first carried to Havana in 1873, the service continuing half a century. The Havana business was taken over by the Munson Line in 1923, and with it *Excelsior* and *Chalmette,* which had served so splendidly.

THE EARLY COASTWISE LINES

The need for steamship communication connecting the North and South was so great that steamboats were put on Southern routes before proper vessels had been designed to meet the hazards of Cape Hatteras waters.

James P. Allaire, New York engine builder, owned the steam packet *Home,* built by Brown & Bell, and launched April, 1836. *Home* was not completed until January, 1837, and lay at the foot of Delancey Street, New York, until the following April, a year from its launching. The reasons for delay are not now known, but the fact that *Home* was owned by the engine builder suggests financial troubles of the promoters.

Home was 198 feet length, 22 feet beam and 12 feet depth of hold and cost $115,000, carrying $35,000 insurance. *Home* was wrecked and 95 lives lost on its third trip to Charleston. "That she was not the kind of a vessel to withstand the tempestuous gales of the Atlantic has proved fearfully true," said a writer describing the wreck. "We have no evidence that in her model or timbers any reference was had to a capacity for encountering the perils of the ocean; but candor compels us to say that her model, the time of her



Porto Rico, which serves that island

lying unemployed and other circumstances, induce the conviction that she was never intended for a sea boat. If she was so intended, then those who had charge of her construction should never again attempt to plan a vessel."

Home had made its second voyage to Charleston in 64 hours, the quickest passage made by any vessel up to that time, and left New York, October 7th, for its third trip with 90 passengers and 40 crew. *Home* struck on Roamer Shoal, New York harbor, remaining fast four hours. "The accident was occasioned by striking one of the buoys on Captain Gedney's new channel for the buoy on Roamer." *Home* floated and did not appear damaged, but two nights later went to pieces six miles north of Oglethorpe Light.

Captain Carleton White reported that *Home* had run into a gale on leaving New York and sprang a leak a little north of Hatteras, the water gaining so fast that the cabin floor was scuttled and all hands, including men and women passengers, bailed with buckets and kettles, but the rising water put out the boiler fires and the ship ran under sails alone. *Home* was headed for the shore, but, having so much water in the hull, was stopped by outer breakers. Seas stove in the sides of small boats. *Home* went to pieces in 25 minutes.

"Both mates, all three engineers and James B. Allaire are lost," reported Captain White. "I suppose about 80 souls were drowned."

The same storm which carried down *Home* struck the steam packet *Charleston* on its way from Philadelphia. *Charleston* was able to make Beaufort, where it refitted and later arrived in Charleston, October 10, 1837.

John P. King, built for the New York and Charleston route, came out in 1861, being 235 feet length, 37 feet beam and 21 feet depth of hold, with 12 feet draught and 1,550 tons measurement. The single beam engine was built by the Allaire Works, and the cylinder measured 71.6 inches diameter by 12 feet stroke, while the paddle wheels were 28 feet diameter by 10 feet length of buckets. At 13 knots *John P. King* consumed 30 tons of coal per day. During the Civil War *John P. King* was known as *Rhode Island,* and after the war went back to the route and was then known as *Charleston.*

Eagle was built in 1862, of the same dimensions, except that the engine cylinder was 75 inches diameter by 12 feet stroke, and the paddle wheels 30 feet diameter.

Matanzas was the first steamer constructed in the United States whose hull was entirely built of iron. The frames were angle iron,

with iron reverse bars and the keel was solid iron, 3 by 9 inches, with iron deck beams and angle braces. *Matanzas* was clipper ship design, 900 tons, 210 feet length, 30 feet beam, and 20.6 feet depth of hold and was built by the Delamater Iron Works, foot of West 13th Street, New York, under direction of J. W. Capper. The engine had inverted cylinder, 56 inches diameter by 44 inches stroke, designed by James Baird of the Cromwell Line.

THE SAVANNAH LINE

Savannah, which gave its name to the first steamer to cross the ocean, may also have floated the first iron steamboat in America. The session of Congress, February 26, 1834, authorized "G. B. Lamar of Savannah, Ga., to import free of duty, an iron steamboat with its machinery and appurtenances, for the purpose of making an experiment of the aptitude of iron steamboats for the navigation of shallow rivers."

R. R. Cuyler, one of the finest early American propellers, was built for the New York and Savannah trade in 1860, being 240 feet length, 33 feet beam, 24 feet depth of hold, 16 feet draught and 1,800 tons measurement. The Allaire Works, New York, built the single upright engine, designed by James Baird, having cylinder 70 inches diameter by 4 feet stroke, the largest single cylinder engine built up to that time. Two return flue boilers supplied steam, 13.6 feet wide, 17 feet length and 14.4 feet high, with separate stacks and connections for each boiler.

The Savannah Line was organized in 1872 as the Ocean Steamship Company of Savannah and Col. William M. Wadley was its first president. It was promoted by interests identified with the Central Railroad & Banking Company of Georgia and succeeded the Garrison & Allen Line, also known as "The Empire Line Steamers to Savannah," and "The Great Southern Freight Line." The new company inherited the Garrison & Allen fleet of six steamers.

In fifty years' operation the Ocean Steamship Company of Savannah enjoyed a remarkable record for not having lost lives despite the storms and weather frequently encountered off Cape Hatteras. Until the French cruiser *La Gloire* ran down and sank *City of Athens,* 22 miles off the Delaware Capes, May 1, 1918, when 33 passengers and 33 of the crew were lost, the company had never suffered a fatal accident.

Chattanooga, newest of the Savannah Line fleet

The Savannah Line vessels have been:

Name	Tons	Came to Line	Length of Service Years	Disposition
General Barnes	1,254	1872	6	Foundered, October 25, 1878
Herman Livingston	943	1872	5	Lost, September 30, 1877
Magnolia	1,215	1872	5	Sold
San Salvador	971	1872	5	Sold
San Jacinto	1,312	1872	6	Sold
Rapidan	860	1872	6	Sold
City of Macon	2,092	1877	26	Sold, 1902, Merchants' & Miners'
City of Savannah	2,092	1877	15	Lost, August, 1893
City of Columbus	2,092	1878	5	Sunk, June 18, 1884
Gate City	1,997	1878	21	Stranded, February 8, 1906
Dessoug	1,367	1880		Became coal barge
Juniata		1880		
City of Augusta	2,870	1880	42	
Nacoochee	2,680	1882	40	
Tallahassee	2,677	1882	22	Sold, Boston & Philadelphia Steamship Company, 1905
Chattahoochee	2,676	1882	26	Sold, M. & M. T. Company, 1909
City of Birmingham	3,066	1888	19	Sunk, Boston harbor, 1909
Kansas City	5,679	1889	19	Sold, 1909, Pacific coast
City of Savannah	5,017	1901	4	Sold, New York & Porto Rico Steamship Company, 1905
City of Memphis	5,252	1902	15	Sunk by submarine, March 17, 1917
City of Macon	5,252	1903	12	Sold Barber Steamship Company, 1916
City of Columbus	5,433	1904	18	
City of Atlanta	5,433	1904	19	
City of Savannah	5,654	1907	17	
City of Montgomery	5,425	1910	14	
City of St. Louis	5,425	1910	14	
City of Athens (formerly *Suwanee*)	3,648	1917	1½	Sunk, collision French cruiser *La Gloire*, May 1, 1918
City of Rome (formerly *Somerset*)	3,648	1917	7	

Dessoug was formerly the private yacht of the Khedive of Egypt, and carried the obelisk from Egypt to New York, which was set up in Central Park. Plates were removed to permit Cleopatra's Needle to be stowed in the hold. The first *City of Savannah* was originally *Grande Duchesse,* built by Newport News Shipbuilding & Dry Dock Company for Morton F. Plant, being sold by the Savannah Line to the New York & Porto Rico Steamship Company in 1905, being renamed *Caroline* and sunk by a German submarine off the Jersey coast, when one of the lifeboats, containing 25 persons, was picked up. The lifeboat came ashore near Atlantic City and aided in the Liberty Loan drive.

At the outbreak of the World War in 1914 five of the ships of the line, *City of Memphis, City of Macon, City of Savannah, City of Atlanta* and *City of Columbus* were chartered for ocean voyages and covered routes all over the world in charge of their regular captains.

City of Macon, City of Savannah, City of Columbus, Gate City, City of Augusta, Nacoochee, Tallahassee, City of Birmingham, Chattahoochee, Kansas City, City of Memphis, City of Macon, City of Columbus (second) and *City of Savannah* (second) were built at John Roach's Delaware River Iron Shipbuilding & Engine Works, Chester, Pa., *City of Montgomery* and *City of St. Louis* were built at Newport News, *City of Athens* and *City of Rome* by the New York Shipbuilding Company, Camden, N. J., and *City of Birmingham* (second) and *City of Chattanooga,* new liners in 1923, were built at Newport News.

CHAPTER XXIII

Commuting Steamboats of New York Harbor

BUSINESS struggled to possess tree-sheltered quiet streets in New York of the fifties. Suburbs grew quickly with the introduction of commuting steamboats.

Two companies carried Staten Island commuters following Commodore Cornelius Vanderbilt's fast passenger sloops, the Tompkinsville & Stapleton Ferry Company, owned by Captain Jacob Vanderbilt, serving Clifton, Tompkinsville and Stapleton, and the North Shore Ferry Company, Commodore William T. Garner, president, and George W. Jewett, Francis G. Shaw and Richard Delafield, leading stockholders.

North Shore ferries ran from Pier 19, foot of Dey Street, to New Brighton, Snug Harbor, West Brighton, Port Richmond and Elm Park, and the company operated *Huguenot, Thomas Hunt, Pamona* and *Castleton. Thomas Hunt,* afterwards *Valley Girl,* was built in 1851 in New York, 168.6 feet length and 29 feet beam. *Castleton,* designed by Captain Anning Smith, superintendent of the line, was also known as *Mohawk, Richmond, Albion* and in 1923, *Trenton,* running between Philadelphia and Trenton, being built at Keyport in 1870 and rebuilt at Noank, Conn., in 1902. The North Shore terminal in New York was moved to Whitehall Street in 1871.

The Vanderbilts owned *Flora* and *Citizen* and built *Josephine* (later *Henry E. Bishop*) in 1853 to run to Tompkinsville and Stapleton, followed by *Westfield, Southfield, Middletown* and *Northfield,* beam engined steamboats of about 200 feet length and 35 feet beam. *Westfield* and *Northfield* were built in 1863 at Brooklyn; *Middletown* in Brooklyn in 1864 and *Southfield* at Clifton in 1882. *Westfield's* boiler exploded Sunday, July 13, 1871, when coming into dock in New York and 104 persons were killed.

Red Jacket, afterwards *Chancellor,* Captain Jacob Braisted and *Kill von Kull,* were operated by the Central Railroad of New Jersey to Elizabethport, Mariner's Harbor and Bergen Point in the '60's running through the late '70's. *Water Witch* ran to Elizabeth in the early '60's.

John H. Starin opposed the North Shore boats about 1871, making

the same landings with *Thomas Collyer* and *Black Bird*. Believing Vanderbilt interests had inspired this competition Commodore Garner purchased the fast *D. R. Martin* to invade Vanderbilt territory, making hourly trips from the foot of Rector Street. *D. R. Martin* took fire and was rebuilt as a double ender for passengers only, and while off the run *Sunshine* was chartered. This Stapleton service

New York from the Brooklyn shore in the days of boilers on the guards

continued until Commodore Garner's death by drowning in his yacht *Mohawk,* off Stapleton.

The North Shore Ferry Company was purchased by John H. Starin in 1877 and continued with the Vanderbilt boats to serve Staten Island until 1879 when Richmond County came into New York City and the ferry franchise was awarded to the Baltimore & Ohio Railroad which consolidated the ferries at St. George and built modern ferries, *Robert Garrett* and *Erastus Wiman,* at Baltimore in 1888. *Robert Garrett* was 225.2 feet length, 61 feet beam and

14 feet depth of hold and became *Stapleton. Erastus Wiman,* approximately the same size, became *Castleton* and was sold to the Government in 1919, being then taken to Norfolk and burned the same year. The ferries were taken over by the City of New York in 1905 when *Bronx, Richmond, Brooklyn* and *Manhattan* (ex *Richard Croker*), came out. *Richmond* was built at Port Richmond, the others at Sparrows' Point, Md.

Long Island north shore towns were early connected by steamboats with New York. *Island City,* new in 1850, was the crack boat. *Washington Irving,* Captain Leonard, 450 tons, with crosshead engine, ran to Flushing and *Astoria* from Peck Slip to Astoria. *Croton,* Captain Peck, from the Hudson, made Glen Cove and *Pacific,* 114 tons, served Stony Brook.

Seawanhaka was built by Benjamin Terry at Keyport in 1866 for Glen Cove and Great Neck route, holding the speed record from the Battery to Execution Rock. *Seawanhaka* measured 611 tons, 200 feet length, 26.7 feet beam and 10 feet depth of hold. Hubbard & Whittaker, Brooklyn, built the engine with cylinder 50 inches diameter by 10 feet stroke. *Seawanhaka* caught fire off Ward's Island, June 28, 1880, when 40 lives were lost. *Seawanhaka* was driven completely out of water on Sunken Meadow, burning to the keel. The Glen Cove route was reëstablished by *Idlewild* which continued until 1908 when *Idlewild* burned at Erie Basin.

Glen Cove, built in the '50's, served Northport, Huntington and Glen Cove, and *D. R. Martin* was built at Keyport, 1863, for Huntington-Oyster Bay route. *Huntington,* now *Antoinette,* was built at Athens in 1888, a propeller of 100 feet, followed by a new *Huntington,* built 1903 at Noank, 120 feet length. *L. Boardman* and *City of Hudson* ran latterly to Sea Cliff and Glen Cove.

Independent lines were gathered into the Montauk Steamboat Company, controlled by the Long Island Railroad, operating *W. W. Coit, Montauk, Greenport* (ex *Sagadahoc*), *Jane Moseley* (afterwards *Minerva*), *Sag Harbor* and *Shelter Island,* which went South winters and was wrecked, being replaced by *Shinnecock,* built in 1896 at Wilmington, 226 feet length, 35 feet beam and 14.3 feet depth of hold. *Shinnecock* ran from New York to Greenport, Shelter Island and several seasons from Fort Pond Bay to Block Island, but was laid up many years until 1924 when *Shinnecock* replaced *Wyandotte* on the Sag Harbor-New London route. *Old Glory* ran from New London to Greenport, and as *Nassau* from Long Island City railroad terminal to Wall Street until the completion of the East River tunnels.

THE HARLEM STEAMBOATS

Harlem, with rocky hills, rolling meadows and shaded winding lanes, became a smart place of homes of the well-to-do. Ladies drove fashionable rigs to East River wharves to meet afternoon boats bringing the head of the house from the city, and neighbors visited while waiting. Harlem steamboats went from the foot of Wall Street, called at 23rd Street and landed at Sylvan Place, a short grove lane between 121st and 122nd Streets.

The commuting steamboats running to Harlem landed at Sylvan Grove

The Morrisania Line and the Harlem & Morrisania Line fought for business with runners on the docks pushing and crowding passengers. By every cunning practice, competition grew bitter until the elevated railroad was built through the Bowery to Harlem in 1879.

The Harlem & New York Navigation Company operated *Sylvan Shore, Sylvan Grove, Sylvan Stream, Sylvan Glen* and *Sylvan Dell,* and against them were *Harlem, Morrisania* and *Shady Side,* all fast boats. *Sylvan Dell,* Captain John Tallman, was built to break

records and made a speed trial on the Hudson but failed to beat the time of several fast boats through inability to carry high steam pressure for long distances.

Sylvan Shore, pioneer of the Harlem fleet, was built in 1856 by F. Boole at Morrisania, 143 tons, 136 feet length, 23 feet beam, 40 feet over guards, 7.6 feet depth of hold and 4.6 feet draught. The engine cylinder was 30 inches diameter by 8 feet stroke. *Sylvan Shore* made 17 miles' speed. *Sylvan Grove,* built by Thomas Collyer in 1858, of the same dimensions, had engine cylinder 56 inches diameter and made 17½ miles' speed. *Sylvan Stream* came out in 1863 and was 157 feet length, 26 feet beam, 44.6 feet over guards, 8.6 feet depth of hold and 5.8 feet draught, built by Thomas Collyer. The engine's cylinder was 40 inches diameter by 8 feet stroke. *Sylvan Stream* measured 349 tons and made close to 18 miles' speed. *Sylvan Glen,* built by Lawrence & Foulkes, Brooklyn, was added in 1869, practically the same dimensions as *Sylvan Stream.*

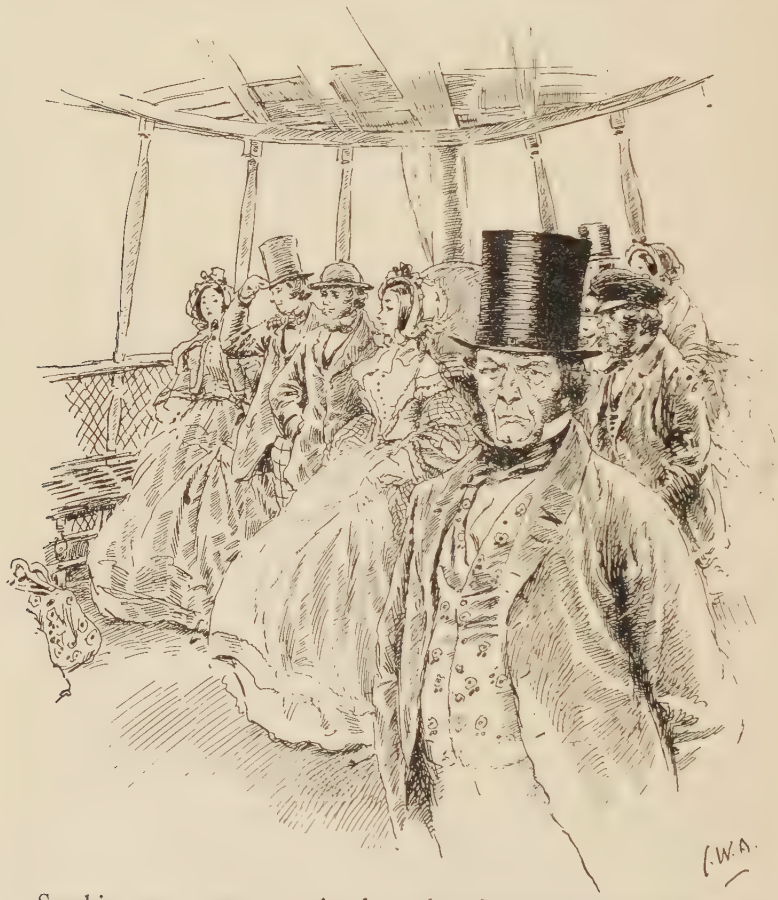
Sylvan Dell, last built of the Sylvan fleet, was constructed by Lawrence & Foulkes in 1872, measured 440 tons, 185 feet length, 25 feet beam, 46.6 feet over guards, 8.9 feet depth of hold and 4.9 feet draught, with engine having cylinder 51 inches diameter by 8 feet stroke. Fletcher Harrison & Company built the engines of the Sylvan boats.

The fleet was dispersed when the elevated steam trains carried the crowds. *Sylvan Grove* ran to Rockaway, Bay Ridge, Roslyn and on other New York routes and was taken to Cape Fear River, North Carolina, to run between Wilmington and Carolina Beach by the New Hanover Transit Company and was destroyed by fire at Wilmington wharf, January 19, 1891. *Sylvan Shore* was broken up in 1877. The engine went in the ferryboat *Annex. Sylvan Stream* was sold in 1885 for the St. Lawrence River and became *Empire State* of the once well-known Folger Line fleet. *Sylvan Glen* ran to Bay Ridge and next out of Jacksonville, Fla., in winter and on Savannah River summers, and was purchased in 1886 for Philadelphia and Gloucester ferry service. *Sylvan Dell,* known as queen of New York harbor, after its Harlem career, ran to Glen Island, to Newburgh and Bay Ridge and went to the Philadelphia-Gloucester Line in 1886.

Tiger Lily, Water Lily, Trumpeter, Jenny Lind, Osseo, and *Catlin* ran on Harlem River, shoal draught steamboats carrying commuters, fishermen to Cromwell's Creek, and crowds to revival meetings held in Buena Vista Grove, Mott Avenue and 138th Street.

New Jersey commuters living along the Palisades were brought

to Spring Street, New York, by *Edwin* and *Thomas E. Hulse,* requiring a full hour for the trip, succeeded by *Fort Lee,* a propeller built by the Hudson Chemical Company, *Pleasant Valley* and *Shady Side.* Regular stops included Weehawken, Guttenberg, Bulls Ferry,



Smoking was never permitted on the after deck and isn't now

Edgewater, Tilly Toodlum (afterwards Pleasant Valley), and Fort Lee. Charming cottages with flower and vegetable gardens and orchards ran down to the river, now occupied by Edgewater factories, and shad fishermen moored their boats along the picturesque shore.

Pleasant Valley was built at Keyport in 1870 and *Fort Lee* in 1868 at Brooklyn, becoming *Morgan*. *Shady Side* was built in 1873 at Bulls Ferry, 168 feet length, 27.5 feet beam, 9.5 feet depth of hold, but soon left the Palisades to run for the Wrights from Stamford and Norwalk to Peck Slip, following *Nelly White, Neversink, Americus, Cricket, Shippan,* and *City of Albany*. *John Romer* was operated in 1866 by the Greenwich & Rye Steamboat Co., $75,000 capital, of which Boss Tweed held $20,000.

Smith Brothers operated from Nyack, serving lower Hudson commuting towns. *Sunny Side* and *Sleepy Hollow* were built in 1866 by C. & R. Poillon, Brooklyn, for wealthy commuters of Sing Sing, Tarrytown, Hastings, Irvington and Yonkers. This opposition line never paid, and the builders met large losses. *Sleepy Hollow* became *Long Branch* and *Sunny Side* ran to Troy until lost. Alexander M. C. Smith operated *Adelphi* (ex *City of Albany*), built at Athens in 1865 as an Albany day boat; *Alexis, Chrystenah, Josephine* and *Raleigh* in 1877 and '78. *Riverdale* (ex *Alexis*), and originally *Peter C. Coffin,* served Fort Washington Heights until *Riverdale* exploded a boiler off 22nd Street, New York, in 1883, sinking with loss of life.

John Romer, built at Keyport in 1863, was a fast New York harbor boat of the '60's, which ran to Hart's Island, going to the Boston-Hingham route in 1869, and was sold in 1883 to the Chesapeake & Ohio Railroad, running out of Newport News, as *Louise,* as late as 1904. *Mattano* was built in 1859 at Keyport, a well-known harbor steamboat, afterwards running from Washington, D. C., until 1899. *Minnie R. Childs, John Carney* and *Marion* were steamboats of about 110 feet length, running in the harbor in the '60's and '70's. *William Harrison,* built in 1864, continued in New York waters until 1881, being sold to the Nantasket Steamboat Company, Boston, and last reported from Buffalo in 1892. *Minnahanonck* was built in New York in 1868. *Crystal Stream,* formerly *Nelson K. Hopkins,* ran in New York waters many years before going East. *William Storie,* an excursion boat, had been *Patrol,* a harbor police boat, built at Brooklyn in 1882, and latterly ran from Newark. *Wyoming,* built at Athens in 1882, inherited the engine from *New Brunswick,* and ran on the New Brunswick route. *Wyoming* was wrecked at the mouth of St. John's River, Fla. *Minnie Cornell,* built at Athens in 1879, whose engine came from *New Champion,* took the place of *Matawan* on the Keyport route and burned at Keyport in 1891. *W. V. Wilson* was built at Keyport for the Keyport route in 1880, and later covered other Jersey towns.

Long Branch, Josephine, Plymouth Rock, Captain Loss Tilton, and Captain Sam Martin, *Pilot Boy, Neversink, Argo, Thomas P. Way* and *Magenta* ran to the Jersey beaches in the '60's and '70's and '80's, followed by *St. John's* and *City of Richmond. St. John's* was built in 1878 at Wilmington to run between Savannah and Jacksonville against *Nelly Baker,* running on the inside route. *St. John's* was 250 feet length, 38 feet beam and 12.5 feet depth of hold, and ran on the Potomac in latter years, being an ammunition carrier in the World War. *Monmouth* and *Sandy Hook,* twin fliers of the harbor, 260.5 feet length, 35.1 feet beam, 14 feet depth of hold (the latter slightly larger beam), respectively 2,500 and 3,200 horse power, were built in 1888 for the Central Railroad of New Jersey. *Asbury Park,* 297.2 feet length, 50 feet beam, 15.4 feet depth of hold and 5,900 horse power, was added in 1903, and went to the Pacific in the World War to carry Alameda shipworkers, then becoming a single screw vessel.

The New Haven Railroad's Port Morris-Greenville car transfer *Express,* built in 1889 at Wilmington, burned; the wreck was purchased by C. L. Dimon and was rebuilt by Morse Dry Dock & Repair Company from plans by Frank E. Kirby, becoming *Mandalay,* which after a season on the Hudson River began to run to Atlantic Highlands.

Red Bank on the Shrewsbury River was served by *Highland Light* in the '50's, which afterwards ran from Norfolk and Smithfield, and was followed by *Meta J. Lamond,* later *Meta,* which ran through the Kills to Perth Amboy and New Brunswick. *Helen,* a small boat built in 1862, ran 20 years on the Red Bank route. *Sea Bird,* Captain Throckmorten, was built in 1866 at Hunter's Point for the Merchants' Steamboat Company and was 187 feet length, 30.4 feet beam and 8 feet depth of hold. *Sea Bird* was partially destroyed by fire, May 5, 1867, and rebuilt, returning to the route in July, and meanwhile *Nelly White* filled in. *Albertina* was built in 1882 at Greenport and afterwards lengthened to 174.2 feet, 33 feet beam and 8.7 feet depth of hold.

Keyport, built to run to Keyport, was taken in the Civil War and afterwards ran on the Potomac between Washington, Aqua Creek and Alexandria, later coming North under Captain Black's ownership. *Matawan* succeeded *Keyport* and *T. V. Arrowsmith* was built by Captain Arrowsmith to run opposition, afterwards turning wildcat on many routes.

The Patten Line operated *Pleasure Bay, Elberon, Little Silver, Mary Patten* and *Thomas Patten* to Pleasure Beach and Long Branch. *Pleasure Bay* was built at Upper Nyack in 1890 and

was running on Mobile Bay in 1920. *Elberon* was sold in 1921 to J. J. Orr of Providence, and ran excursions during the summer, being sold to the Midland Beach Steamboat Company and renamed *Midland Beach*. *Little Silver* was built in 1893 at Tompkins' Cove. *Mary Patten* was built in 1893 at Brooklyn, 182 feet length, and *Thomas Patten* in 1901 at Newburgh, 201.5 feet length, with engine by W. & A. Fletcher Company. *Thomas Patten* became *Governor Harrington,* operating as a state ferry between Annapolis and Claiborne.

THE STARIN STEAMBOATS

John H. Starin did much of the lightering and towing for the Lackawanna Railroad when Sam Sloan was its president; operated *John Taylor* and *Erastus Corning,* live-stock boats on the Hudson, the side-wheel tugs *H. M. Wells, Oliphant* and *Black Bird,* and a large excursion fleet, including *Atlas, Ajax, Adonis, Apollo, Albion, Amphion, Aurora, Myndert Starin, Laura M. Starin, Lenox* and *Glen Island*. Starin built Glen Island, a German village in Echo Bay, New Rochelle, containing a museum of many exhibits.

Atlas, formerly *Thomas Collyer* and *Sam Sloan,* was built in 1863 at New York and rebuilt in 1882 at Noank, and was last used as a Bayonne yacht station. *Apollo* (ex *Black Bird* and later *Sea Gull*), was built at Keyport in 1864 and last ran on Mobile Bay. *Ajax* was the former *D. R. Martin* (ex *Howard Carroll*), built at Keyport in 1863 and was broken up at Newburgh. *Aurora* was the old *Matawan,* built at Keyport in 1862. *Adonis* (ex *Princeton*), and *J. S. Warden,* originally *Eliza Hancox,* were built at Jersey City in 1863. *Amphion,* formerly *Pomona,* later *Glen,* was built at Keyport in 1861 and rebuilt at Port Richmond in 1893, going to the Philadelphia-Trenton route, becoming *Dolphin* and giving the name Dolphin Line to the Trenton Transportation Company for the next 30 years.

Albion was formerly *Castleton, Mohawk* and *Richmond,* built at Keyport in 1870 and rebuilt at Noank in 1902, becoming *Trenton*. *Laura M. Starin,* formerly *H. M. Wells,* was built at Milton, N. Y., in 1864, and rebuilt at Noank in 1879. *Myndert Starin,* built at Brooklyn in 1871, had been *Americus,* named for the Americus Club of Greenwich, Conn., the summer playground of Boss Tweed, and later became *Newark*. *Glen Island* had been *William G. Edgerton* and originally *City of Richmond,* and was built in Philadelphia in 1880, and burned,

With Starin's passing the Glen Island fleet was operated for a few years by McAllister Brothers who added *Mount Desert* from Maine, renamed *Arion,* until the old boats could serve no longer and when they went other steamboat antiquities, *General Lincoln, What Cheer* and *Merchant,* among others, served until Glen Island closed as a resort in 1916.

Steamboats, when their favor waned, were cut down for towboats

Union and *Norwalk,* owned by Taylor & Wilson, were the first steamboats to run to Coney Island Point, now Seagate. *Naushon,* with crosshead engine, ran from the foot of Amos Street, now West 10th Street, to Coney Island. *Naushon* had braved Nantucket's storms and, as *Newsboy,* covered ship news for the New York papers, and was owned latterly by the City of New York and carried animal carcasses to Barren Island.

Plymouth Rock, then owned by Jarrett & Palmer, was the first large steamboat to land at a dock at Coney Island. *Twilight,* a handsome two-stacker, was the first large boat to run to Rockaway Beach, being originally the second *Thomas Collyer,* purchased after the Civil War to run to Peekskill, then becoming *Antelope,* but being narrow and crank, a new hull of six feet more beam was built at Noank, coming out as *Twilight.* Alexander M. C. Smith operated *Idlewild* to Coney Island in 1876-78, bringing on *Rosedale* August 1, 1877. R. Cornell White ran *H. M. Cook, Nelly White, Neversink, Adelphi* and *Americus* to Rockaway Beach, followed by the Knickerbocker Steamboat Company which brought the big *Columbia* to Rockaway service, 1876, and *Grand Republic* in 1877. *Grand Republic's* engine came from *De Soto. Columbia* went to Baltimore in 1888 and was replaced by *General Slocum,* which burned in East River with loss of 1,164 lives, June 14, 1904. *Grand Republic, Nassau,* and *Highlander* burned on the night of April 25, 1924, while being commissioned for the summer season. *Highlander* was rebuilt at Kearny, N. J., in 1925, being renamed *Bear Mountain.*

The Iron Steamboat Company's fleet of seven iron-hulled vessels connected 129th Street, the Battery and Coney Island for more than 40 years. *Cygnus, Sirius* and *Cepheus* were built at Chester, Pa., and *Cetus, Pegasus, Perseus* and *Taurus* at Philadelphia in 1881, ranging from 212 to 229 feet length and 32 feet beam. They were first advertised, by Rufus Hatch, the promoter, "They cannot burn —they will not sink," which was more impressive then than such a slogan would be now, and it has been justified in the years since.

Side-wheel harbor towboats did little towing on Sundays. A great part of the fleet took fishing parties to and below the Hook and often 30 or more steamboats lay off Long Branch rolling and pitching in the ground swell. Sunday fishermen of the '50's, '60's and '70's had their favorites among *Annie J. Lyman, Saml. L. Brewster, William Fletcher, Andrew Fletcher, Charles Chamberlain, Silas O. Pierce, Seth Low, Rattler, John Werbeck, George Werbeck, Virginia Seymour* (later *George Starr*), *Satellite, Only Son, King Philip, Hazel Kirke,* ex *Peter Corey,* and *J. G. Emmons.* Later came steamboats planned for fishing parties, *Taurus, Al Foster* and *Angler. Al Foster* went to the Potomac and next to the Pacific, replacing the lost *City of Kingston. Angler* (ex *Mary Morgan*) replaced *Al Foster,* carrying negro excursions out of Washington, D. C. In recent years the old lighthouse supply tender *Mistletoe,* built at Chester in 1872 and almost 50 years in lighthouse supply service, has run to the fishing banks with *Herman S. Caswell,* built in

1878, and a host of smaller craft. *Mistletoe,* in recent years, carried potatoes from Orient Point, L. I., to New York.

Pilot Boy, Osseo, a small side-wheeler, *River Belle, Jesse Hoyt, Comanche, General Sedgwick,* afterwards *General Hunter* and again *General Sedgwick* and then *Bay Queen, Jane Moseley,* and *J. B. Schuyler* were popular excursion boats on short runs. *Jesse Hoyt* was built at Keyport in 1862 for an Albany day boat, but was not fast enough for the service and was sold to the New Jersey Southern Railroad. *River Belle* was destroyed by fire, September 8, 1874. From Newark the Stevens & Condit Transportation Company ran *Thomas P. Way* and *Magenta.* Other Newark boats were *Union, Majestic, Islander, Newark, Leader* (a propeller), and *Minerva,* now a freighter running to Albany.

A fleet of old-timers has run from the Battery to Keansburg, N. J., in recent years, including *Keansburg,* formerly *Nantasket; Point Comfort,* formerly *Nantucket,* which went ashore at Esopus Island in the upper Hudson; *Keyport,* formerly *Martha's Vineyard,* which sank off the Battery and was raised; *Smithfield,* formerly *Hampton,* from the James River, *Pocahontas* and *Mobjack,* built in Newburgh in 1899 for Mobjack River, Virginia.

Happy Day was built for Charles M. Schwab, who later directed Harlan & Hollingsworth Company, Wilmington, Del.; Maryland Steel Company, Sparrows' Point, Md.; Fore River Ship & Engine Company, Quincy, Mass.; Moore Yard, Elizabeth, N. J., and the Union Iron Works Company of San Francisco and Alameda, Cal.

Schwab planned a great children's playground on Staten Island, suggested by Jacob Riis, for which land was purchased, plans made by Architect Charles Platt and buildings erected. Schwab commissioned his friend Lewis Nixon, former naval constructor, to build the finest steamboat to carry great numbers of children to the new playground, the boat being constructed in 1903 at Elizabeth, being 201.8 feet length, 30 feet beam, and 10 feet depth of hold. Nixon's yard met financial troubles and James Smith, receiver, completed the boat at enormous added cost. The project was abandoned, though its example influenced many welfare movements. The steamboat, built for Schwab, became *Majestic,* running from Newark to Coney Island.